Computer Language Support Programs for Tertiary Students: a Contribution to Educational Linguistics

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To be a linguist is inevitably to be concerned with the human condition.
Halliday (2000 : 235)

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ABSTRACT

As the title suggests, this thesis looks at some problems — and solutions — involved in making, managing and using language (English) support software, for lecturers and tertiary students (both first and second language, working online individually or in groups). Language support programs are shown to be essentially different from language support courses. The process of making and using computer language support software forces one to revisit educational linguistics and shows how linguistics and language support program design intersect, to the benefit of both.

Making support programs is an open-ended activity, which spans the spectrum from theory to practice in more than one field. M.A.K. Halliday (1992: 60) provides the term 'transdisciplinary' to express the idea of reaching into many disciplines. Making a useful program — a large investment of time and research — is a transdisciplinary process, involving needs analyses, education, theoretical linguistics, applied linguistics and sociolinguistics, academic development, computing, design theories, curriculum restructuring, discourse analysis, management and assessment of online learning environments and institutional dynamics. All have to integrate in the most useful way possible. It is to be hoped that this wide and holistic vision of the parameters and the potential of this new field will not do disservice to the various specialisations which are involved.

The taxonomy of systemic functional linguistics provides the framework(s)[1] round which language support programs can be constructed. A basic understanding of systemic functional linguistics and of the writings of M.A.K. Halliday is assumed; they are therefore not explicated here. The structures of systemic functional linguistics and those of hypertext design are shown to be mutually supportive.

Both courses and online materials may simply be lists of the discrete items which teaching experience suggests is needed, or they may seek structure. Language support software which uses hypertext design principles crystallises a logical navigable structure from the perceived formlessness of English studies as a whole. In the past there was no perceived need to construct navigation routes through 'English'; English literature departments, often charged with foundation and support responsibilities, tend to resist confining concepts of underlying order in favour of a nuanced approach. But M.A.K. Halliday's later writings draw attention to profound systemic structural relationships among form, content and 'reality', literature and language, discourse and register. The structural role of linguistics in education is for Halliday essential, but he does not underplay the equally important roles played by attitudes, perceptions, ideologies and institutions. The nuanced approach becomes a thematic of the essential paradigms.

The navigation map for a well-designed program for language support has a feed-back effect; it re-maps 'English' as a discipline in a useful and innovative way. For navigation in the virtual environment to work, and for learning to take place, order and meaning have to be drawn from,

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[1]Plural forms of words are used deliberately throughout, although in the past the singular might have been expected, in order to express the consciousness of diversity and change which characterises online approaches to language and learning.

or imposed on, the experience of language in the classroom. The structure of a program (or course) as it is presented to students is not the same as the structure (meta-language or meta-theory) used to make the program. The discourses to be acquired by learners in English for special purposes courses and programs are shown to be different from those needed by the teachers, and the structure or design by which courses and programs are made is different from the plan of a course or syllabus or program as experienced by its users. Metaphors or analogues for language support programs provide the visions which enable building of the structure or scaffolding of a software program. Useful metaphors are derived from topography or architecture; but for systemic functional linguistics and also for program design, evolutionary metaphors are probably the most apt.

Those metaphors might be interpreted in terms of Halliday's 'themes' (Halliday 1992: 60). His recent work provides images or analogues useful for creating language support programs, and his earlier work in systemic functional linguistics provides the paradigm on which language support can, I think, best be founded. Halliday sites 'language' holistically in the human environment, in all its multiplicity. The edifice which he builds on this base reaches into every aspect of human behaviour as it is reflected in language. The extraordinarily complete vision of 'New Ways of Meaning' (Halliday 1992: 59-95) and of 'Grammar and Daily Life' (Halliday 2000: 221-237) provides a theory of language and experience which can be applied to all disciplines as evolving architectonic systems, to the advantage of both the makers and the users of the systems.

Halliday's distinction (1992:60) between disciplines and themes clarifies inter-relationships

among the various systems involved in language support programs. Disciplines split up into the taxonomies by which data are ordered, while themes comprise interpretations of, and ways of using, the data. The successful or unsuccessful construction of courses may be influenced by the perspectives or viewpoints which mediate the realisation or implementation of courses or programs. Themes may be seen as ways of thinking, perceptions, styles, which may be applied to the scientifically determined scaffolding set up by linguistics or other disciplines . Themes may be used unconsciously, or consciously, to legitimise courses or programs. They make take the form of metaphors. Both themes and paradigms evolve through time, but themes change faster and less coherently than paradigms.

The present work applies biological and evolutionary metaphors both to linguistic and cultural change, and to institutional choices in the language support environment. Language and language support can be interpreted as evolving systems, subject to cultural assumptions and trials of 'fitness' which evolve on analogy with genetic evolution. This approach is in line with Halliday's later writing (1996 and 2000) where evolving systems maintain symbiotic relationships with one another.

Memetics is a theory of cultural evolution, first expressed in *The Selfish Gene*, by Richard Dawkins (1976), and developed by E.O.Wilson (1975; 1998), Daniel Dennett (1978; 1981; 1995) and Susan Blackmore (1999). Memetics enables one to see how some language support courses and programs may be 'unfit' in evolutionary terms, based upon inherited, unquestioned assumptions but protected artificially in a conservative academic environment.

A pragmatic approach to computer language support allows for choice and change and grey areas where the boundaries are fuzzy. The primary criterion for the evaluation of a program is that it works — this criterion is less simplistic than it sounds. When the program is used, feedback mechanisms enable adaptation, as part of a cyclical process. Competition, in the evolutionary sense, supports the 'fittest' programs, but selects them for viability, not for their approximation to an ideal standard . 'Fittest' does not mean 'best' but best liked, or most used, or most useful, or most vigorously promoted. The 'fittest' programs may be many, and complementary rather than similar.

Chapter 1 is concerned with the principles and parameters of language support. This chapter examines how conflicting perceptions (themes) of language support courses and programs are formed, using the notion of cultural evolution (memetics) to explain both conflict and change within the many inter-related systems which make up this field.

Chapter 2 compares various academic perceptions of the need for language support courses and programs with the needs and perceptions of students. Practical, logistic and institutional needs conflict with linguistic and ideological ideas about who should teach what kind of language support to whom. In the South African context, the issue is complex because of our institutional and political heritage and multilingual population.

Chapter 3 uses systemic functional linguistics to examine theories (paradigms) of language in relation to language support, and as contrasted with perceptions (themes) . It analyses examples of tertiary level L2 English in accordance with systemic functional

linguistics, to show both the limitations of language support and of some theoretical positions about language support (which are based upon metaphor and analogy). It posits the notion of a core course, and emphasises the role of systematicity. It shows how systemic functional linguistics enables the design of language support programs.

Chapter 4 examines current support courses and programs, as representing the bank of choices from which new courses and programs are derived. It shows how some online materials do not make use of the power of hypertext, do not follow systemic principles, and provide cosmetic assessment and integration. If correction is to incorporate *explanation*, then one needs to draw on the various levels of the linguistic paradigm. The courses and online materials surveyed are described in an appendix.

Chapter 5 is a case study of the design of the program *English for Everyone* (2000 Jeffery and Jonker, Pearson Higher Education), demonstration site http://www.e4e.co.za, from which some design principles are extrapolated. It shows how language support program design can engage with systemic functional linguistics in a mutually informative way, and how the engagement is enabled by metaphors and analogues.

Chapter 6 outlines ways in which online learning can be implemented and managed in the lab without state-of-the-art facilities. It describes specific online language support practice between 1998 and 2001, using different kinds of software, and managing teams of student assistants. It notes unpredicted and useful language practices in the lab. Managing language support programs includes re-evaluating ways of integrating learning

with discourse, assessing student performance online, and putting in place models for evaluation of the process itself.

Several general theoretical conclusions are drawn. One is that Halliday's fundamental work in systemic functional linguistics enhances language support and enables program structure. Language support programs can be imaged as analogic representations of language, which in turn may be seen either as analogic representations of life, or as part of the 'continuum of reality'. Programs depend upon the systemic nature of inter-related systems. Language, technology and ideology are seen as evolving systems. Because programs can be upgraded, and because they are not goal-directed and linear but web-like, they do not lock in to specific ideologies.

Computer program design principles and hypertext enable integrated, self-directed learning. It becomes possible to help all students of English (L1 and L2) in most tertiary subjects to produce professional performance in English, related to real tasks, without entering the nebulous and unassessable realms of 'competence', and without being forced to create separate courses for every discipline.

Further specific conclusions are that:

(a) programs are neither easier nor more difficult to use than courses. They are different from courses, and terms used to evaluate courses do not transfer seamlessly to programs.

(b) assessment of the success of programs cannot (yet) be directly compared with either the success of courses, or the success of control groups.

(c) perceptions are as important as facts; and terminology (metaphor, analogy) can *both*

enable perception to masquerade as fact, *and* provide fruitful new ways of understanding processes by which we work and create.

(d) with IT help, an appropriate server and student assistance, language support programs can be used without enormous expense and on older pc's . The glamour of the computer need not mislead one into imagining that a new media facility and only highly qualified staff are needed before one can enter this new field: the investment of time and thought in online language support is more important than that of money. But the resources of IT support are over-stretched.

(e) team work is essential.

(f) multilingualism in the lab appears to enhance language support. Students deny this, but the evidence supports it.

(g) all disciplines, even 'English studies', have structure, and program design depends upon that structure.

(h) program design is determined by technology as well as by content, and technology itself (the medium) is part of the message

This research evolved from my attempts to facilitate science and English communication courses at Vista University and then while first making and then using the computer language support software *English for Everyone.*

CHAPTER 1

Some principles and assumptions of language support

Philosophy, and the subjects known as the 'humanities', are still taught as though Darwin had never lived.

Dawkins 1976: 1

The question 'Why make computer programs for language support?' might have been asked ten years ago. The technological revolution in universities is now, however, accelerating. As long ago as 1994, Taylor and Saarinen (1994: n.p. 3 Dec.1992) wrote of digital innovation that 'to resist the possibilities...is to leave this extraordinary technology in the hands of others'. The question in 2001 is rather: 'How does one make and use a good language support program?' The word 'good' will here be interpreted pragmatically as 'useful' or 'viable', because in essence, computer language support programs have to work, and to perform functions which can be empirically evaluated. [1]

This thesis takes a deliberately broad transdisciplinary approach. The word 'transdisciplinary' in preference to 'inter-disciplinary' or 'cross-disciplinary' or 'multi-disciplinary' was chosen as appropriate by M.A.K. Halliday (1992:60). It will be seen as one proceeds that terminology is central to the perception and success of language support. Many problems have to be solved in

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[1] One reason for choosing utility as a criterion for the value of a program is tied to the argument, in Chapter 3, that if software designed specifically to help students to use formal academic English in their chosen disciplines and careers functions in such a way that students acquire tools and strategies to enable them to become proficient users of academic English in those disciplines, then the program serves its purpose. Supported by Halliday's systemic functional linguistics, a distinction between 'competence' and 'performance' will be shown to be both unnecessary and indefinable.

the relatively new medium of computer support software. The word 'program' will be used to refer to coherent and structured language support, rather than to on-going posting of unstructured materials and exercises on the Internet or in shared folders on intranets (local area networks). Important and useful as those are, they cannot be evaluated as a coherent item.

Structured transdisciplinary language support programs should, ideally, take into account ideologies, linguistic theory and the design and management practicalities of language support in the current economic climate of South African universities. Language support courses and programs are, of necessity, interpellated into a post-colonial and postmodern world, and are sited among conflicting pedagogical and ideological positions. All of those positions and theories are themselves changing and re-aligning.

At any one point in time (synchronically), language itself can be analysed systemically, as a construct of coherent, inter-related, systems. 'Systemic' is not the same as 'systematic'. On the axis of temporal change (diachronically), linguistic systems interact; any one change in a sub-system sets up corresponding compensatory changes on that level, and hence on other levels, in order to maintain contrasting meaningful sets. Therefore through time the sets of inter-related systems evolve in symbiotic relationship with each other, to greater or smaller extents. The paradigm of language then is not static or fixed, but can be seen as an evolving systemic network of inter-related levels.[2] The *causes* of change are not the concern of this thesis; they are simply

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[2] Saussure (1959; principle 2) describes diachronic change by providing the useful analogy of the moves of a chess game, to explain the change from one state of equilibrium, or one state of synchrony, to the next. There is no 'general rummage'. But the difference between a chess game and language systems is that language 'premeditates nothing' - change happens in response to so many variables that it appears to be random.

a matter for observation. But the *fact* of change and of compensation for change, both within language, and within attitudes to language, is central. Languages are evolving systems. Courses and programs need to accommodate awareness that language 'rules' are contingent rather than absolute.

Systemic functional linguistics provides the disciplinary paradigm or theoretical base according to which the systems of language *as it is used*, in all its complexities, can be analysed and understood. I have chosen to use systemic linguistics both from personal preference, and because it articulates or resonates with computer program design principles.[3] The early work of M.A.K. Halliday (1978, *passim*) therefore underpins this thesis. In the course of his working life, however, Halliday has examined the study of language and language change in terms of both 'disciplines' (his main work in systemic functional linguistics) and the 'themes' which mediate them (his later work, and specifically the articles of 1992 and 1996, *passim*):

> A discipline is defined according to its content: what it is that is under investigation....Disciplines split up into taxonomies as their domains become more and more subdivided....A theme, on the other hand, is defined not by content but by aspect, perspective or point of view.
>
> Halliday (1992: 60)[4]

Disciplines are the systemically inter-dependent paradigms and categories which represent, on various axes, the structures of systemic functional linguistics, which can itself in totality be

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3 I was one of M.A.K.Halliday's students at Edinburgh University.

4 Halliday's most recent work evokes a 'consilience', germane to the subject of language support, between language and experience, summed up by the title *Construing Experience Through Meaning* (1999). The word 'consilience' invented by the biologist E.O.Wilson, is explained below.

called a paradigm. Themes, however, are approaches, ideologies, perceptions, methods, attitudes. They operate independently of scientifically determined, and abstract, paradigms of language study *per se* — like different lenses through which structure is perceived. Themes allow linguists, and makers of language support courses and programs, to move into the realms of the transdisciplinary. As one example of a theme (there are many), Halliday suggests 'cladistics', the 'study of change in systems, whether by evolution, by growth or by individuation' (1992:60). This particular theme happens to be important to course and program design, because the principles by which change takes place both in language and in academic situations are in themselves important. [5]

Systemic functional linguistics can provide an over-all paradigm according to which a computer program for language support can be created, because it both places and ranks discrete items of language at all levels, from phonemes to texts and beyond texts to genre itself, and also relates the systems of language to how language means, and how meaning relates to 'reality' or 'the world' — which in the case of language support means the work situation in which specific kinds of language will be needed by graduates. In pragmatic or materialist terms, when making programs which have to work and which incorporate assessment, it is useful to restrict speculation to what can be measured and spoken of.[6] Systematicity is essential both to an

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Cladistics is also, incidentally, a significant choice because this new German science has particular application for the classification systems of genetics, re-aligning forms in terms of close affinities across time, rather than in terms of an illusionary linear progress towards 21st century civil society: see Jones (2000:370-375 and 410). Halliday's linguistic systems, and the design of software for language support, also strive for classifications which escape from linearity (heterogeneous lists of items).

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'Of that which one cannot speak, one should be silent' (Wittgenstein1921: Proposition 7)

understanding of how language works, and to an understanding of how to make computer programs.

Programs are not made or used in a vacuum, however, and so themes which affect makers, teachers and users also need to be explored and factored in to the transdisciplinary situation. The climate in which a support program functions is affected synchronically by perceptions, and diachronically by tension between forces for conservatism and forces for change. The life of a course or program for language support is determined by its fitness to survive in, and ability to adapt to, the conditions to which it is subjected.

The terminologies of 'institutional linguistics' and 'memetics' provide tools for observing and evaluating some of the themes which are important to the evolving transdisciplinary nature of language support courses and programs. It is helpful to be aware of some of the processes by which selection for survival within specific environments takes place; the acceptance or rejection of language support courses or programs within institutions conforms with wider patterns of cultural change. Awareness of the processes of change is perhaps more important in the case of language support than in other academic subjects, in part because 'language' and 'English' and 'support course' and 'foundation course' are terms with many different referents, depending upon ideology, context and situation. As a new and growing field in South African academia there is increased competition among departments to provide language support, and conflicting visions of what comprises such support. Successful courses can signal survival for individuals and departments.

The same term can have different meanings when used by different groups to request, provide, accept, critique or reject language support. Additionally, the needs to provide, and to receive, language instruction, spring from very different situations.

In relation to language planning (a topic which will be discussed later), Halliday uses the useful concept of 'institutional linguistics'. [7]

> The greater part of language planning activity is institutional rather than systemic; that is to say, it has to do with planning, not the forms of a language, but the relationship between a language and those who use it.
>
> Halliday (1992:62)

Themes — the unseen and competing forces of change and of conservatism — more often than objective approaches, impact upon the viability of courses and programs in institutions. Verbal formulations of the need for support reinforce unacknowledged themes by pre-determining or pre-selecting the parameters of support even before the course or program is made.[8] For example, defining phrases which contain particular words such as 'acquisition', 'authentic', 'communicative competence', 'competency', 'development', 'enhancement', 'expression', 'foundation', 'integrated', 'interactive', 'language', 'literacies', 'outcomes-based', 'preparedness', 'support', 'trans-disciplinary', or 'writing' trigger specific responses in terms of course type. The name chosen for the course — 'language support', 'integrated language support', 'interactive integrated language support', 'communication', 'language enhancement',

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7 Halliday has resuscitated the term, invented originally by Trevor Hill in 'Institutional linguistics' 1958 *Orbis* 7, 441-455.

8 'Philosophy is a battle against the bewitchment of our intelligence by means of language.' (Wittgenstein 1953 *Philosophische Untersuchungen*, Part 1, Section 109)

'writing', 'foundation skills', 'preparedness', and so on — also pre-selects a specific kind of response. Those powerful words and titles are neither good nor bad in themselves, but may be based upon hearsay, prejudice, imitation, research, or original thought. When courses are requested by one department and produced by another, fissures hidden in terminology, and also in metaphor, may lead, one or perhaps two years later, to large cracks.

Linguistics itself is not enough to establish working courses. It may therefore be useful to try to understand some of the ways in which preconceptions and perceptions of language support may be more influential, in academic and intellectual situations, than analytical thought based upon rigorously established linguistic principles. On one hand, 'institutional linguistics' creates a useful competitive space where complementary ideas, and systems, co-evolve, compete and adapt, and on the other hand all systems tend naturally towards entropy (dissolution or chaos); the items which make up courses eventually outlive their validity.

The tension between paradigm(s) and themes should be seen as a resource, not as the devaluation of a 'pure' system. Transdisciplinarity involves

> more than the content of any one discipline...in future such activities will benefit as much from the complementarity of different themes as from the summation of different disciplines.
>
> Halliday (1992: 60)

The theme which most interests Halliday is semiotics: 'any phenomenon investigated from the standpoint of what it means' (Halliday 1992:61). 'What it means' is determined in part by 'how it means', and 'how it means' is determined in part by the situation, the environment in which meaning is created. In the case of language support, the environment is academic and formal,

or professional.

The role of a support course is to help students to understand, create and communicate meaning in the disciplines which they are studying, and in their professional capacities as graduates. The *meaning of the course itself* is something different; it is determined by the situation of the course in relation to the business of the institution, and is subject to changes of ideology, philosophy, political dynamics, educational dynamics and so on. The discourses, needs and ideologies of course creators are essentially different from those of course users; in other words what academics need, and think they need, is not the same as what students need, and think they need.

The 'fittest' courses will be those which are *both* linguistically sound and *also* conform to current institutional perceptions, in terms of their constitution and of the perception of them in relation to other structures in the institution. 'Fittest' means best adapted to the current situation in all its complexity.

For example, research by Elize Koch at the University of Port Elizabeth uncovers mismatches between perceptions of what is needed and perceptions of how to provide what is needed. She demonstrates that among lecturers there is:

- a discrepancy between seeing the problem as the mastering of the academic language of disciplines, and addressing language as a 'skill' to be addressed in an external course or by sending the student for help
- a discrepancy between seeing the problem as the mastering of the academic language of disciplines, and recommending it to be addressed as a problem with the technical aspects of English, and only at entry-level.

Koch (2000: 30)

This is only one thematic dispute among many. The most practically useful courses and programs

for language support may *negotiate* as part of the original brief the situations and contexts within which the support is required, perceptions of what is required, and the extent to which what is required can be delivered. At one extreme, support courses may focus on the basic defining category of formal academic English. At the other, they may ignore the paradigm altogether, providing not so much language support as communication or cultural practice.[9] The 'fittest' courses may find ways towards the 'complementarity' which Halliday speaks of. But equally, they may be 'fit' — that is, successful in generating student and staff interest — simply by complying with current desires and perceptions, with only the most rudimentary linguistic structuring. Long term evaluation processes which might assess the value of a course in relation to student performance in the discipline(s) served by the course are too remote to affect the institutionalisation of any one course. Analysing the dynamics of how support courses work within institutional systems, then, is different from analysing how effective a specific course or program is, and different again from assessing qualitatively how 'beautiful' in a mathematical sense the design of the software is.

Halliday says: 'We shall not come to understand the nature of language if we pursue only the kinds of question about language that are formulated by linguists' (1978:3). 'Good' language support courses (those which survive longest and are deemed useful) may therefore be sited

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Some courses examine Englishes which have no role in academic or employment environments (asking students of English communication at tertiary level to 'write a letter to a friend telling them what sort of clothes to bring when coming to Port Elizabeth' or 'Correct the following sentence: My friend and me would like to come with'. The first asks for practice in a genre - letter writing - which is non-academic, informal, and indeed obsolete. The second asks for changes to informal spoken South African English which would imply that we should not speak like that. The expected answer has also no relevance to academic written contexts except in the discourse of 'the task'. Both examples have been used in current courses July 2000). Other courses focus on sociological issues (aids awareness, gender issues, race and class).

somewhere in the space between institutional dynamics, and the data capturing on which linguistic theories (and particularly systemic functional linguistics) are based:

> The concept of 'institution' will become increasingly central to linguistics... Linguistics will take more seriously again the classic problem of how language relates to the world...The use of computer-readable corpora for studying lexis and grammar will profoundly change linguistic description and theory.
>
> Stubbs (1992:200-202)

Where a binaric division is perceived, for example between tradition and innovation, or between linguistics and communication, it is often a simplistic view of a graded continuum. If students as a result of *any* support course or program find law or physics more exciting, and are motivated to strive to continue, then the support course has done at least half of its job. Very few problems have only one viable solution.

A 'good' language support course or program might be defined as one which can be shown to perform the function for which it has been designed, and which *also* survives and adapts within the institution for which it has been designed. This definition draws upon attributes from within and outside courses or programs.

The institutional environment in which a course or program functions exerts pressures which promote or jeopardise its survival. South African tertiary institutions are undergoing radical economic and organisational restructuring, and curriculum and demographic transformation. However academically focussed they may be, new courses are inevitably contextualised by the Southern African need to serve both the poorest or disadvantaged and the gifted achievers, without favour. Institutional and personal ideologies therefore play an often unacknowledged role in planning. Under normal conditions, changes in syllabuses and courses are naturally

asynchronous, innovative research in one field leading to related developments in others. In the years 1996-2001, however, structures and systems which had evolved symbiotically and gradually have destabilised. Course and syllabus and program design environments have become contested sites where competition for survival under adverse conditions has replaced natural evolution, and where change in all systems is concurrent. In biological environments, those are the conditions under which extinctions, as well as accelerated and unexpected adaptations, take place. In protected environments, conversely, courses and ideologies can be artificially preserved. Extinction and survival are not necessarily assessments of quality or value.

The issue in the present context is not whether change is for better or worse, or for whom it is better or worse. It is that the environment in which evolutionary change takes place affects the rate and the nature of change, and needs to be factored in to course and program planning and assessments of viability.

A theory of cultural evolution has recently developed. It is called memetics.[10] On analogy with genetics, which provides an account of evolutionary change in biology, memetics accounts for the forces which operate to accelerate or retard cultural change. In *The Selfish Gene* (1976) Richard Dawkins first applied the principles of genetic evolution to cultural change. Cultural evolution has explanatory power for evolving social systems, of which language is an instance. It can be applied both to the systems (paradigms or disciplines) of language change and also to the processes or themes by which academic courses (and programs), including those for language support, are developed, assessed and received. It is worth quoting at length the passage in which

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10 A bibliography of memetics is attached in Appendix 10.

Dawkins first used the term 'meme':

> Cultural transmission is analogous to genetic transmission in that, although basically conservative, it can give rise to a form of evolution....The analogy ...has been frequently pointed out, sometimes in the context of quite unnecessarily mystical overtones. The analogy between scientific progress and genetic evolution by natural selection has been illuminated especially by Sir Karl Popper. I want to go even further into directions which are also being explored by, for example, the geneticist L.L.Cavalli-Sforza, the anthropologist F.T.Cloak, and the ethnologist J.M.Cullen.
>
> What, after all, is so special about genes? The answer is that they are replicators. The laws of physics are supposed to be true all over the accessible universe. Are there any principles of biology which are likely to have a similar universal validity?...If I had to bet, I would put my money on one fundamental principle. This is the law that all life evolves by the differential survival of replicating entities.

Dawkins added:

> ....I think that a new kind of replicator has recently emerged...still drifting about in its primeval soup...the soup of human culture....Just as genes propagate themselves in the gene pool...so memes propagate themselves in the meme pool by leaping from brain to brain via...imitation. The survival value of a good meme in the meme pool results from its great psychological appeal. [A good meme] provides a superficially plausible answer to deep and troubling questions...
>
> If a meme is to dominate the attention of a human brain, it must do so at the expense of 'rival' memes...Selection favours memes that exploit their cultural environment to their own advantage. This cultural environment consists of other memes which are also being selected. The meme pool therefore comes to have the attributes of an evolutionary stable set, which new meme find it hard to invade.
>
> Dawkins (1976: 192ff.)

The theory which evolved from this passage has significance for linguists and for educational linguistics, as well as for curriculum designers.[11] The word 'memes' defines a unit of culture. It is a tool which can be used to describe processes by which human culture evolves, non-

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It is well known that arguments from analogy do not carry scientific weight. This argument is suggested as an enabling tool; the power of metaphor and analogy to obfuscate or enlighten is discussed later. Just as linguists now use genetics to re-design linguistic thinking, so geneticists use linguistics, neurology and computer design to explain evolutionary processes. Jones provides an example of the latter (2000:12-13 and *passim*)

genetically, by imitation. By 1995 the concept of genetic and cultural co-evolution had created memetics. *The Journal of Memetics: Evolutionary Models of Information Transmission*, (Manchester Metropolitan University, online at http://www.cpm.mmu.ac.uk/jom-emit) provides links to a large corpus of work on memes and memetics. The field has repercussions for artificial intelligence and for language studies.

Two better-known contributors to memetics are the biologists E. O. Wilson (1975 and 1998) and Daniel Dennett (1995). Wilson coined the word *consilience* to express the systemic inter-dependence of 'everything'. Where *holistic* suggests merely an openminded overview, *consilience* adds the concept of evolving systematicity. All parts of a system or of inter-related systems depend upon and support each other and the whole; when one single element changes, systems respond coherently in compensation by co-adapting and co-evolving until balance is restored. Memetics includes not just the principle of systemic change, which is not new, but a cultural explanation in evolutionary terms for the processes of change. Memetics can usefully be applied to explain the making, reception, survival and death of language support courses and programs.

The co-evolution of language and culture resonates with Halliday's later writings (1992: 60), where systemic functional linguistics is mediated by thematic concerns, because attitudes to language, culture and education evolve along culturally determined lines. The 'fittest' courses or programs will be those which are *best adapted* to the institutional situation, not *best* in an evaluative sense. 'Situation' includes ethos, political bias or alignments, personal profiles, need, and so on.

Halliday's themes, preoccupied with perception and evolving change, are close in function to meme. The concept of dynamic evolving change is built in to the word 'memes', just as the word 'gene' contains within itself both the program for the individual instance and the potential for inherited characteristics and mutation. Both words explain replication. Memetics is therefore a useful tool for analysing any processes in institutional environments (Blackmore 1998:15).

Ridley (1999a: 31) describes meme as digital messages made of words or ideas which reproduce themselves in suitable environments, in mutually assisting groups, called 'co-adapting memeplexes', on analogy with co-adapting gene complexes. It may seem cynical to view the minds of academics, and the courses they create, as vehicles for passive reception and replication of inherited ideas about language support. Such an attitude has a respectable history. Meme bear a more than coincidental relationship both to J-F Lyotard's concept of the persuasive power of master-narratives, and Foucault's description of 'the tyranny of the text' (1969, 1976). Both Lyotard's 'master-narrative' and Foucault's 'discourses' deconstruct the power of groups of ideas by unveiling the uninterrogated assumptions upon which they rely. Where Lyotard foregrounds the unquestioned concepts by which human beings rule their lives, Foucault observes and identifies as 'discourses' the linguistic forms by which those concepts are borne. He seeks to understand 'things' through 'the discursive practices which systematically form them' (1976: quoted Rivkin and Ryan 1999: 422). Meaning is carried not only by overt, up-front statements, but by sub-texts (un-deconstructed assumptions made without comment) *and* by the form or genre or context in which the statement is made. The medium in which writing is formulated exerts the powerful force of prediction upon the methodology of the investigation or the narrative and so also upon the sort of conclusions which are reached. Lyotard therefore encourages radical

scepticism towards all master-narratives, and Foucault unveils the discourses by which narratives are formulated.

Their work grew naturally from the work of formalist and structuralist thinkers, which in turn had evolved from the quests of David Hume on the one hand and René Descartes on the other for a fact whose truth one could be certain of. At every level, from the simple statement to the novel, the forms of language can predetermine the meaning of what is said or written, a sort of linguistic determinism of which rational thinkers are obliged to try to be aware, so that they are masters rather than slaves of their own discourses.

Memetics complements the constructions of both Lyotard and Foucault (and ultimately Halliday's register theory, although his latest work approaches the evolutionary aspect of language as a social construct) in that it adds the concepts of natural evolutionary change, of competition, and of adaptive fitness to the bundle of ideas signalled by the words memes and memeplex. While discourse or master-narrative are one-dimensional concepts, memeplexes might be defined as 'discourses in the process of change', or 'master-narratives in competition'. The explanatory power of the memes has a new and dynamic application to language as an analogue of, or even as part of, changing and evolving human social behaviour, and human culture as carried by language.

Where the narrative and the discourse unveil, the memes turns upside down the paradigm by which one understands the world (Ridley 1999a: 31). As genes have become the primary agents for which the structures of life — animals and plants — are simply vehicles, so by analogy

competing meme assume a self-replicating force for which minds (even academic minds, and including those which reconstruct from first principles or from evidence and experience) are but the reproductive environment. The fittest — not the 'truest' or the 'best' memes, but the best-adapted to the environment in which they reproduce — are, by analogy, those which are most often, in common currency, reproduced:

> Replication is not for the *good* of anything — replicators that flourish are good at replicating...There is no necessary connection between the replicative fitness of memes and their contribution to *our* fitness.
>
> (Blackmore 1999:30)

Blackmore defines a replicator as

> anything of which copies are made, including 'active replicators' whose nature affects the chances of their being copied again. A vehicle is the entity that interacts with the environment...Vehicles carry the replicators around inside them and protect them.
>
> (Blackmore 1999:5)

If this analogy is applied to academic courses for language support, on one level tertiary education (represented by the consensus of the minds of academics) is the vehicle and courses the replicators; on another courses are vehicles, and discrete units or parts of courses (what we feel must be contained in an acceptable course, signalled by verbal formulations of need) are replicators. The most successful replicators are those which attach themselves to (piggyback upon) already successful ideas, and which inhabit favourable environments (established courses, receptive minds). 'Mutually assisting meme will gang together in groups' (Blackmore 1998:6). They adapt in groups, just as genes do, thus doubly ensuring their survival in the environment or habitat they belong to. Dennett (1995: 50) describes the logic of this 'evolutionary algorithm' as 'a scheme for creating Design out of Chaos without the aid of Mind'.

The memes sheds light on some aspects of making and using language courses or support

programs; it explains with algorithmic simplicity why, given a wide choice of language support resources, some items tend always to appear without apparent need to evaluate them, and why one method of creating a course or program (a list) may tend to be used in preference to another (a structured system, or a new untested system); it also explains why, given a range of 'better' or 'less useful' programs to choose from, the most successful (widely used) will not necessarily be, in academic terms, the 'best'.[12] Memetics postulates an order or pattern among apparently free or random choices made by individuals or groups — as for example when they choose or create courses within the area one might call academic culture. It explains rashes of similar courses as memeplexes replicating in similar environments or appealing to or travelling with already successful ideas or individuals, to their mutual benefit.

Martin de Jong (1999:1) elucidates how the 'institutionally fittest concepts' survive:

> Apparently, institutional structures constitute a persistent tendency to favour particular arguments at the cost of others. In decision-making processes, i.e., processes during which a selection is to be made among various alternative policy options, institutional structures, consisting of existing decision rules and practices, operate as an information filter creating a conceptual bias.
>
> http://www.cpm.mmu.ac.uk/jom-emit/1999/vol3/de_jong_html

If proposals for new ideas or concepts (for example new courses or programs) are to persuade

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12 There are many examples of memes which piggyback on communication course structures without being integrated into a system. In ESP or communication courses, one might think of items which apparently have to be present, which are represented verbally (as part of the discourse or narrative) and unsystemically in categories which have no paradigm relationship: 'unpack', 'topic sentence', 'emotive language', 'jargon', 'concord errors' and lists of sentences to 'correct'; in science communication courses one might pick out 'using the passive'. One might note that these cannot all belong to the same paradigm, and that they are neither lists of items, or commands, theories or ideas. They simply have to be there. In other environments the words 'discourse' or 'speech act theory' demand inclusion without integration. At the level of course formation, words such as 'integrated' or 'interactive', 'new', 'transdisciplinary' flag acceptable memeplexes.

those with power to accept or to fund them in institutional environments, then they should satisfy 'existing decision rules or practices' — that is, currently accepted memes. Ultimately, as Karl Marx said 'the traditions of all the dead generations weigh like a nightmare on the minds of the living'. Ridley describes the process thus:

> The selective survival of competing replicators — the central idea of neo-Darwinism — is itself a memes...once you understand it, you get fresh insights into everything...Gene-centred Darwinism sees our bodies not as tools for life, but as the habitat in which genes exist and compete. The breakthrough of 'memetics' is to start seeing the world upside-down — to see ideas not as the property of minds, but as independent entities swimming through a sea of minds. Once you have gained this perspective, you can begin to rethink almost everything, from the evolution of language to the reasons for human altruism...Blackmore argues that... the function of language was to spread meme.
>
> We human beings...are not, as we fondly think, the authors of our own thoughts so much as the victims and receptacles of independent ideas. Just as it was most refreshing to see the biological world from the gene's point of view, so it is refreshing to see the psychological world from the thought's point of view.
>
> (Ridley 1999a: 31)

One can apply this cynical attitude to the roles we play in recycling, rather than creating, the elements of language support courses.

Ideas are in open competition with each other, so in relation to computer language support programs, the more programs that are made available, the better. A process analogous to natural selection will inevitably operate. At the same time, it may become clear that different programs or Internet sites will be useful for different needs. Symbiotic relationships between courses and individuals, departments and institutions improve the survival potential of each. The discourses of genetics, of linguistics, of sociolinguistics and of literary theory share preconceptions.

Before a language support course or program can be institutionalised it must pass tests at

department level, inter-departmental, senate, NQF [National Qualifications Framework] and now SAQA [the South African Qualifications Authority]. There may be conflict (symbolised by discourse differences) among those who design or teach language support courses, and those whose role is to teach or advise teachers about language support (sometimes called 'language practitioners' or academic development), or between groups within institutions who see themselves as threatened or colonised by what they perceive as 'wrong' or presumptuous or foreign ideas, or by processes which have not followed the 'proper channels'. There is also the important aspect of the perception of courses in the eyes of learners, SRCs, management structures, outside funders and potential employers. Each group brings to the table its own discourse or memeplex, which has often not been deconstructed or analysed, but simply espoused. Those discourses act as competing memeplexes, some better adapted to the environment in which they find themselves than others. Some act as valuable checks and balances — introducing a healthy competition for survival. Others inhibit innovation or favour conservatism or simplistic approaches or political correctness or personal charisma.

Academic research writing is fundamentally different from other formal written genres. Even though formal or professional academic English is changing at the present day, [13] a less formal surface does not eliminate the need to scrutinise the heredity of ideas, discriminate against those which are least substantiated, follow widely agreed patterns of argument types, and dissociate logically respectable concepts from popularist belief, urban legend, tenets of faith or current ideology.

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13 For a discussion of 'democratic' Englishes, see Chapter 2.

One would expect the sheltered environment of academe to protect and encourage fragile meme which would probably not survive in the more aggressive worlds of business and industry. 'Fragile' in this context suggests 'complex' or 'highly specialised' (as in 'fragile ecosystem'). But where researchers and lecturers from different disciplines, committees, senate members, or even where academic departments work as groups, competition among meme will ensure the selection of the 'fittest', by the sort of selection process suggested by de Jong (1999: 37 and above). The fittest will be those meme which appear to the majority to be valid because they are clear, because they fit the current paradigms or because their promoter is persuasive or powerful. Specialists in their subjects will have more complex and less readily communicable ideas about which meme are fittest in their specific academic contexts than will the committee or group of diverse academics empowered with supporting or rejecting them. So choice among alternative proposals may militate in favour of meme which attach themselves to already *generally* accepted academic perceptions (the fittest) and against the propagation of specialised memes more deserving of survival according to the perceptions of the minority whose specialisation enables them to make a more objective assessment in that special area. This process may particularly matter in relation to an interdisciplinary subject such as language support, because most people have strongly held lay opinions about language and English. With reference to UNESCO's language support in Africa, Limage (1998: 2) comments on an example of this principle which took the form of the apparently self-evident statement: 'NGOs are more in touch with the needs of the 'community' than academics and governments'. The flag-waving words *NGO's* and *community* (good) are more powerful than the boo-words *academics* and *governments* in an environment where they have piggy-backed upon a powerful vehicle: grass-roots populism.

Committees legislating on language support will probably over-ride linguists. Many memes surround the words 'Good English'. The more liberal attitudes are paradoxically to be found among language specialists, and the more proscriptive (do not do this) and prescriptive (do this) among those who request support courses for their students. In general the field of language support courses and programs is memes-ridden. 'Good English' is in effect a host for various competing memeplexes.

Some of those memeplexes are made up of discrete unsystemic items of linguistic 'lore', based on uninterrogated and undefined concepts such as the idea of 'errors' or 'mistakes'.[14] Some memes relating to English support courses are based on suppositions such as 'Their writing is atrocious' or 'Their English lacks coherence'. The use of the word *they* to refer to students endorses an unquestioned authoritarian approach even among supposedly liberal teachers. Others, chosen at random, are 'reports must be written in the passive voice [one even sees 'passive tense']', 'Language is the bearer of culture', 'English is the killer language', 'English support courses must be cross-disciplinary / multi-disciplinary / inter-disciplinary / not adjunct', 'English support courses must be given to every student, to be fair and to avoid discrimination', 'Asynchronous learning is best', 'You must be taught in the language in which you are going to write', 'Mother-tongue learning is best', 'English communication courses are basically racist', 'Cloze exercises are interactive and so must be the best way to learn English as a second language', 'We are second language students and so should be treated more leniently than first

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An analysis of the English of third year second language writers is provided in Chapter 3, in order to assess what the needs of those students really are, to compare the actual need with general presuppositions, and to investigate practical ways of providing help in place of taking on board the memes of current ideology.

language students', 'You should not teach by imparting information, but by drawing it out of the students', 'Group work is better than individual work / lectures'...the list is long. One might notice, to comment upon but one phrase, how the educationally unhelpful 'cloze exercise' (unhelpful because it does not contribute to learning) promotes itself by piggy-backing upon the currently popular memes 'interactive' and both piggy-back upon the unquestioned virtue of computers and of 'learning by doing' as learning tools.

Ideas about English grammar are particularly subject to memetic assumptions, even within English departments. One assumption is that grammar is a set of rules which can and should be learned and which therefore can and should be taught. Another assumption is that 'good grammar' applies equally to speech and to writing, and yet another that the 'English grammar' of students is 'deteriorating', and even that language itself is degenerating. Aitchison (1979: 9) describes how non-linguists often equate 'bad English' with crime or with low moral standards, an attitude, she says, which 'shows that many people, including some of those in positions of power, are back in the dark ages over understanding how [language] works'. The 'language' of news readers with regional, class or race accents is often described in terms which would normally be reserved for crime — 'shocking', 'horrifying' and deserving of awful punishments. Most often what is picked out in this regard by linguistically innocent critics is phonological rather than grammatical, and often intelligibility is not affected. [15]

Language support programs walk a tightrope between the memes of proscriptive / prescriptive

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[15] The notion of standards with relation to South African English is discussed in 'Standards in South African English' Jeffery, C. (1993). For discussion see *The English Academy Review* 1993 Vol.10, December: 14-25, and appendix 8 below.

approaches on the one hand, and those of post-structuralist libertarianism on the other. The latter set up a centrifugal force away from rules or order towards the outer limits of 'the burning of signs', 'what do we feel about science' and the role of empirical thinking in the oppression of the colonised subject. If language support programs for any discipline are to perform a useful function, they should accept some paradigmatic propositions: that linguistics is neutral; that reason and logic are human not European attributes; and that the grammars of specific languages, such as English, are contingent and evolve.

English is not a model for other languages. An Afrikaans-speaking lecturer in African languages complained that her Xhosa students 'cannot even write a complete sentence in their own language'. One might comment on her assumption that the concept *sentence* — subject, verb, predicate — is universal. [16] One might also note that while some second language students of English may need to be taught syntax, others may need very different help. A system which incorporates asynchronous learning is important. Knowledge of systemic linguistics and of socio-linguistics (knowledge in other words of slightly more complex memes) assists teachers to contextualise student needs in ways which make them intelligible.

Imprecise terminology creates several problems in English for Special Purposes [ESP] teaching:

> It is not uncommon to hear people talk of a 'functional approach' or a 'structural

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In Latin and in the Latin Middle Ages, the form *sententia* signified an opinion or feeling or judgment. The word did not acquire its more recent meaning of 'the *grammatically* complete expression of a thought' until the 15th century, and even more recently its application to the form itself in which the thought is couched. There is no absolute reason why this format should be imposed upon Xhosa any more than that English should once have been cut to fit the grammatical templates of Latin. Earlier versions of English were not punctuated as they now are. And many examples of incomplete sentences are to be found in the European canonical novel.

> method', although no such things really exist; that much abused term 'communicative' is often used as if it were synonymous with 'functional', which it is not.
>
> Hutchinson and Waters (1987: 22)

Words like 'communicative' become emotive terms, capable, like 'democracy' or 'freedom', of creative interpretation. Many such 'memetic' words are used primarily to mark the speaker as a member of a select group familiar with currently favoured discourses. Another memes which is often uninterrogated is 'writing skills'. It attaches itself to an assumption that students can learn to 'write' without content or knowledge, by being encouraged to 'express themselves'. It may be associated with a memeplex, more political and cultural than linguistic, which includes 'All students have the right to be taught to 'write' well'. This memes treats as oppressive the roles played by reading, learning, application, knowledge, maturity and motivation in the growth of a competent writer . 'Writing' and 'writing skills' are in addition meaningless without computer literacy in the corporate and business worlds which those aspirant student writers will be entering. Those meme are units, not of language support, but of the shared culture of South African politico-academic life in the year 2001, the situation in which they compete for survival. 'Writing' has not adapted well, in competition with 'academic literacies' and 'functional literacies'. The plural /-es/ also functions independently as another memes, signalling 'plurality', 'multiculturalism', 'democratic literacies' and so on. I use 'Englishes' myself, below, to signal an 'openminded approach'. All of those meme help each other out. They enable their own reproduction by inhibiting thought — they are easy currency.

Since 1996, the memeplexes of outcomes-based education have introduced a refreshingly liberal attitude to learning into the formerly authoritarian environment of the South African school system, which had been hostile to the collocation of 'pleasure' with 'knowledge'. At tertiary

level, however, a liberal approach is modified by the need for hard facts, not 'soft' knowledge. Science writing for example is about the acquisition and use of rational taxonomies and specialised discourses; science students and lecturers are often hostile, with justification, to language support courses. This is not to say that there is *no* place for interrogation of the assumptions of science in a postmodern, postcolonial world. A language support course for first year science students, however, is not the place for speculation.

Software programs have an advantage over courses in that self-selection operates. The non-linear shape of programs means that they can be eclectic in content. Hutchinson and Waters suggest that the best syllabuses are eclectic, satisfying the desires and expectations of students who are paying for the course, as well as those of the client departments and the teachers. At the same time, paradoxically, systematicity is essential in programs, in order to provide explanation as well as information. Linear paths which may run in many different directions must still be subsumed within the web of 'consilience'.

An inevitable, and pessimistic, conclusion derived from observing the power of memes and memeplexes must be that useful but over-determined courses and programs (all paradigms and no themes) may fail simply because they are not adapted to interact with memes currently in favour. Others which are poorly thought-out (all themes and no paradigm) may survive. At the same time, taking the longer view, it should probably be the case that the processes of natural selection will enable the best-adapted programs / theories / ideas to survive; that is to say, those which are 'fittest' in an evolutionary sense.

From the memes's point of view, truth or falsity or value is less important in the short term than adaptability to the current environment in its holistic sense. But in the long term the reverse may be true — the fittest to survive should survive. Fitness is a complex concept, involving response to the *whole* environment in which, for example, a course or program is inserted. Fitness is not the same as 'best' in any absolutely theoretical sense.

> There is no *necessary* connection between a memes's replicative power, its 'fitness' from its point of view, and its contribution to *our* fitness.
>
> Dennett (1995: 363)

As Lyotard said of master-narratives, profound scepticism is the most rational way to treat all propositions. In general, in the short term the most successful memes will be those which attach themselves to ideas with current mass appeal, either inside or outside academia.

In order therefore to help a memeplex which one values to survive in open competition, one should take care to attach it to, or associate it with, powerful memes, or meme whose popularity is already guaranteed. This is not a cynical approach, but a pragmatic one. Ideas which are central to student success need to be imparted to most students, and so they need to be made palatable or attractive both to most students, and to colleagues and administration. Those who write funding proposals for projects which are intended to attract support from business or industry will already be aware of the principle of piggybacking the favoured memeplex upon current ideologies — 'this *interdisciplinary* project *empowers* the wider *community* in a *sustainable...*'. For a time (1998, 1999) fund-raising proposals for projects had to contain the words RDP, then GEAR; then the project had to be described as *community-based*, *ground-driven*, and now *media-based* or *integrated and interactive*:

> Practical, learner-friendly and interactive, *e4e* is an ideal learning and teaching tool. It

> guides you step-by-step through a wide range of English acquisition tasks...allowing you to choose your own pace of learning...
>
> (Pearson Higher Education, 2000. Flyer for *E4E*)

In the short term, perception is as important as essential virtue. The popularity of a memes is inversely proportional to its complexity as a concept. There is a need for 'lecturer conscientization' (Van Zyl 1993: 57) by which she means sensitising of lecturers in other departments to current thinking in linguistics. But this laudable need engages us inevitably in a struggle to the death among competing memes. Lecturers in the sciences need to be brought up to speed on functional linguistics, but lecturers in arts also need to appreciate the desire for precision and fact-based learning among scientists. Both need to take account of funding, university politics, student attitudes, and of what can and cannot be done in a course or program. Inevitably, what gets copied from course to course is the product, when what we need to copy, or question and revise, are the instructions for making the product. Otherwise replication becomes less and less faithful, like the whispered message game, and formerly coherent courses move towards entropy.

In the interim phase, between destabilising innovation and chaotic entropy, stable memes (established courses) exert a force of inertia or resistance to change:

> But as soon as syllabuses are designed, modules framed, teachers impressed and conscripted, there is a vested interest in retaining one course, where the needs and outcomes can be manipulated — often in all honesty — to fit the available materials and frameworks.
>
> Halliday and Martin (1996: xiii)

Computer programs, intranets, and the time-tabling of self-study times in computer labs help to facilitate asynchronous, and personal learning, and free students and teachers from the grips of some of the meme which still exert their power over the fields of English for special or academic

purposes, bridging courses in English, and communication courses at tertiary level.

Finally, memes contend in socio-cultural and psychological competition over the creation and adaptive success of courses or software for language support. Members of English departments, despite having specialised in the post-modern novel, or Anglo-Saxon and medieval studies, or Victorian poetry, have found themselves teaching support courses for lawyers, business management or science students, and are familiar with the problems one inevitably encounters. Time and energy and expertise are often willingly invested, over a period of years, at the expense of personal research interests, and even at the expense of students of English literature; and then from one year to the next, the course is axed, or someone in another discipline is given the funding and study leave to produce a substitute course. It is therefore not enough to produce a 'good' course, linguistically sound and following the most recent principles of special purposes teaching, even if it is attached to other successful memes or memeplexes. The wider picture includes maverick or wild-card memes which also come into play, which may jeopardise the survival of fit 'well-adapted' support courses or programs. Good student results are not enough; language support teachers would be foolish not to be prepared to be misunderstood, upstaged politically or personally, or deemed too innovative. Even success attracts take-overs. [17]

This then is the framework within which successful language support functions. A postmodern and comprehensive perspective is probably useful in the field of university practice, to

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[17] The various perceptions of the value of courses or programs intersect with the roles of 'pragmatists' (Van der Merwe 2000) who wait to observe the success or failure of program management before they invest time and reputation by buying in to new technology.(See further Chapter 5.)

supplement idealistic or linguistically pure approaches.

CHAPTER 2

Perceived needs of South African academics and students in relation to language support programs

> *The semantic level in the linguistic system is, among other things, an interface between language and the realities of the outside world.*
>
> Halliday and Hassan 1976: 305

In relation to language support courses, the paradigms of linguistics are mediated by the ideologies or themes by which institutions interpret their need for language support. For example, language support courses or programs in Southern Africa are of necessity evaluated against the norms of a post-colonial and postmodern linguistic and experiential environment. Themes do not provide a framework or structure, but perform in two ways: like lenses, they focus, enhance, distort or occlude the framework(s)[1] ; and at the same time, as the following chapter will show, they represent a real part of the situation in which language support functions (as a level of the larger paradigm of systemic functional linguistics). Themes are master-narratives towards which postmodern theorists advise 'scepticism', that is, not rejection, but awareness of their contingent nature. The linguistic paradigm which best suits online language support is, as has been mentioned, systemic functional linguistics. Chapter 3 examines the paradigm, while this chapter considers some of the thematics by which lecturers articulate their need(s) for language support, in the service of which, paradoxically, the paradigm must prove its 'fitness'. Needs are almost never expressed in terms of, or as part of, paradigmatic systems;

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[1] The frameworks are structured by the needs of linguistics (in the register of formal English) and professional performance.

paradigms may be judged, and found wanting, against themes, but themes are rarely judged against paradigms.

The online route to tertiary language support is a thematic choice. To establish whether there is an objectively determinable need for online support, as opposed to courses, would require more than one type of major and complex needs analysis, which is beyond the scope of the present research. It is also, as mentioned above, too soon to provide statistical proof of the effectiveness of online language support, without which analysis of what is required for remediation is subject to the perceptions of enquirers and respondents. It is, however, possible to justify the perception that online language support is useful, by looking at what it can provide, what problems it can solve, and how it can be conceptualised and managed in the current economic climate, in response to articulated needs, and in comparison with control groups.

The usefulness or 'fitness'of language support courses or programs might be evaluated by the extent to which they respond to the expectations of South African academics and students, and by the extent to which adequate performance has so far been achieved by most students who go through online language support processes. This chapter identifies what lecturers and students want: what are language support courses *expected* to provide. Chapter 6 describes in full what can in fact *be* provided, discussing the methods, procedures and successes of online language support in a specific project over four years (1998 - 2001). The intervening chapters explain some of the many reasons, paradigmatic and thematic, for the qualitative differences between hopes and expectations on the one hand, and practice on the other.

The thematic foundations of a course are reflected, consciously and unconsciously, in the terminology (discussed above) and definitions (or lack of definitions) used to formulate the need for, and to name the course. Some frequently used names are *English for Academic Purposes* (EAP), *English for Special Purposes* and *English for Specific Purposes* (ESP), *English Communication*, *Special English*, *English for Law* or *Business* etc., *English 1B*, *Foundation English*, *Foundation Courses*, *University Preparedness*. The primary division among those course formulations is between those which assume that all subjects share the same language support needs, and those which assume that each subject has a specific and unique linguistic need. The usual term for courses which are created to support specific disciplines (ESP, English for Law, Business, Science) is 'integrated' support.[2] A third, non-linguistic component incorporates time management, interview techniques, general skills, psychological wellness, cognition. There is therefore no single identifiable concept of either first year or continuous, tertiary language support, no category of which those elements are all sub-sets. The terminology by which needs are defined and options for language support suggested fills the memetic function of pre-ordaining, often without conscious analysis, the shape and content of courses.

Titles therefore matter. Courses called *Writing with Computers*, *Report Writing with Microsoft Office*, *Computer Assisted Writing*, *English with Computers*, *History and Philosophy of Science*, *Scientific English*, *Professional Communication*, *English for Business*, may be more attractive to students who want professional qualifications, but, more importantly, they may also re-focus

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2 Chapter 3 shows that it does not make economic, linguistic or logistic sense for universities to provide different 'integrated' language support courses for every discipline. The word 'integrated' is an example both of the power of memes to replicate themselves under suitable conditions, and of the power of terminology to predict responses. In this case, the word can be used with two opposite meanings neither of which is usually defined or examined by users.

the objectives of courses in the minds of lecturers away from the metalanguages of grammar and syntax to practical, specified and assessable professionally marketable outcomes. The progress of students in support courses should be objectively quantifiable in terms of the stated goal(s). The primary goal of computer language support for L1 and L2 students is to produce professional performances in a competitive market. Other goals are subsidiary.

A second terminological confusion, to be used or exploited, describes students as *second language (L2) students*, *students of English as a foreign language*, *multilingual* or *bilingual* students (Webb 1998: 77). For an extreme example see Prins (1997: 203-220), where students whose home language is an African language are considered to be learners of English as a 'foreign' language while students whose home language is Afrikaans are considered to be bilingual, on the grounds that European languages are more 'like each other' than a European language and an African one.[3] Most South African students are students of English as a second language. In terms of spoken English however, most are in fact fully bilingual. Almost none are being taught English as a foreign language, especially not at tertiary level. *All* students, whether L1 or L2, need help to manage the transition from *spoken informal* English to *written formal academic* English, and the transition from the phonology of Englishes spoken by most second language speakers, to that of, for example, educated black or Indian South African English.

Thematic or ideological positions compete for space in courses, and influence what teachers understand to be the outcome(s). Some courses foreground cultural or social needs, some what

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3 This sort of generalisation is oblivious of register theory; it assumes that all support course students have to learn 'English' rather than the very specific register of formal academic English.

they consider to be 'good English', some the marketability of graduates, others what business and industry require of potential employees. Yet others are concerned with language needs which have to be supplied if students are to achieve in academic subjects. Language needs are themselves perceptual. They may be described according to paradigms such as the register theory of systemic functional linguistics, or they may be formulated indeterminately as a need for *grammar, good English, communication skills.* As long ago as 1978, Munby, in *Communicative Syllabus Design,* showed that language support is about more than just language (Hutchinson and Waters 1987: 53). Students and institutions in South Africa, finally, function as representatives of a multicultural and multilingual nation in a global economic environment, raising a perception of need to articulate those ideological positions, and thus politicising the linguistic environment.

Provision of items from this unsystemic group of 'needs' is the task of 'service courses'. As names given to language support courses pre-determine the ideology and so the content and methodology of courses, so the title *service course* places language support in a paradoxical relationship with major disciplines, which the names *English for Special Purposes* and *English for Academic Purposes* do not. It presupposes either that the service course has no independent content and purpose of its own, or that it operates in another category or on another level from degree subject courses. The first perception rates language support as a low prestige and even non-specialist field, but one which nevertheless provides the English department with students and funding.[4] The latter perception suggests that language support informs other courses, that it is a field for the specialist, and that support course design is on a theoretical plane one level

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[4] The word *provide* collocates with *service course*: but the words *take* or *study* do not. The collocations signal the relative value attached to language service courses by those who give them and those who register for them.

up from discrete disciplines. This space for dispute allows language support courses to be attached to, or unhinged from, English departments according to management needs or perceptions. Service courses are therefore easily manipulated to suit vested interests.

Both L1 and L2 students in every faculty need language support, to varying degrees. The national pass rate in the South African schools matriculation exams in 1999 was 48.9%. Over 100 schools achieved a pass rate lower than 20%. A survey (Laugksch and Spargo 1999) to measure the scientific literacy of beginner technikon and university students in the Western Cape 'shows that only one in three students has a sufficient grasp of science to cope with life in the 21st century' (Lickindorf 2000:10). The South African education system has been diagnosed on the one hand to be 'academic, with scant concern for vocationally relevant education and training' (Pretorius 1999:1); at the same time surveys for the purpose of curriculum development by the Universities of Natal and Cape Town (2000; and ongoing by Attwell and Schalkwyk,2001) show that business and industry want students who have the general thinking skills and wide general knowledge provided by the traditional BA or BSc (generic or formative) degrees. The purpose-focussed degree was seen by respondents to be too narrow. It is important to be aware, when formulating a need for language support, of the many perceptions by different stakeholders of what the need is, as well as of the deterministic role played by the verbal formulation itself.

The perceptions of need for language support articulated by academics are not necessarily identical with what students expect from support, even among L2 teachers and learners. Students have their own perceptions of what their needs are, and what they are paying for. There is also a generation gap between needs perceived by those who experienced the apartheid education

system and want redress, and those perceived by the new generation of students who want a professional future in a global market economy. There is also a gap between the idealism of liberal teachers and the hopelessness of students facing an HIV/Aids pandemic. Some thematic assumptions may be suppressed.

Because online language support is a very new field, lecturers, students, publishers and reviewers bring expectations based on traditional support methods and lessons to bear upon computer learning. The two are not the same, having different problems and different solutions. Further, perceptions of need in both types of support have also not taken on board the 'object lessons in failed experiments of language support history' (Hutchinson and Waters 1987:12; Limage 1998: 1-16). Superceded criteria (or 'uninterrogated memes') are even now posited as the benchmarks for ideal courses, and so for ideal software programs. Programs are therefore judged according to their delivery of memetically determined expectations.

Even though for over twenty years, teachers of English for Special Purposes have distinguished language *use* from language *learning*, skills-centred from learning-centred approaches, analysis of the surface forms of the language from analysis of underlying processes, and subject-specificity from general academic language use, yet in South Africa we still debate the merits of those approaches as though they are in open competition. We consider as options approaches which have long been shown not to work, and we also treat, as competitive, approaches that might better be viewed as collaborative and supportive.

In South Africa in the 1980s, the perception that language support was for second language (L2)

students was a source of trouble, both because courses were seen to target disadvantaged L2 learners and paradoxically because they were not developed to fit the needs of L1 students. In England on the other hand, English for Special Purposes [ESP] *is* designed for all (L1or L2) students; all tertiary students need help with academic English.

Since the 1950s, successive ideologies informed UNESCO's interests and interventions in literacy problems in the developing world (and Africa in particular). They represent European orthodoxies of the times. They are reflected in approaches to language, course creation, methods of intervention and ways of measuring success. Those in turn were sometimes designed to satisfy the requirements of funders and sponsors rather than linguists, teachers or students. Some of those ideologies still compete for academic space as though they had never been discredited.

UNESCO's literacy programmes produced fully documented reports and analyses of successes and failures. Some examples follow, of discarded approaches which yet still influence language support. The 'Mass Literacy Campaign', for example, of the late 1950s and early 1960s interpreted language reform as part and parcel of socio-economic reform, a liberal humanist approach which was to enable all, young and old, 'to change, develop and grow both as individuals and nations'. While springing from a different ideology, this ideal shares much with the 'community uplift' and 'lifelong learning' of current South African outreach programs, and calls for language outreach components in tertiary language projects.[5] Economists of education justified the mass campaigns in financial terms. But 'newly decolonised...countries did not

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5 For example some companies have linked funding provision for tertiary literacy projects in 2001 to community outreach.

necessarily see participation of all citizens through reading, writing and numeracy skills as a priority' (Limage 1998: 4). Idealised notions of language support still entangle, for policy makers, cultural theories of self-help, nationalism, traditionalism, transformation, equity, redress, with economic renaissance, professionalism and economic growth. Community outreach in tertiary literacy projects might be better conceived in terms of educating students a percentage of whom will eventually return to their communities as professionals, than by suggesting that university departments perform two jobs, one intramurally and the other extramurally.

Between the mid-60s and the mid-70s 'optimism gave way to realism' (Limage 1998: 4-5) in 'functional literacy' programmes; what one might call now, depending on whether the perspective is market oriented or linguistic, 'purpose-focussed' or applied literacy, or 'discourse-specific' language support. Functional literacy failed because workers interpreted it as providing advantage less to themselves than to management, and as an attempt on the part of management to appear humane. Problems therefore arose from perceptions relating to apparently non-linguistic factors. The inherent value of a course counted for less than suspicions around *cui bono* — who benefits? (Dennett 1999: 51).[6]

The question of who *really* benefits is as important in terms of perceptions of language support now as then. It is not untrue to suggest that the purpose of some support courses is to ensure lecturer survival or to supply FTE's (the equation by which staffing and funding for academic

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The wheel has now come full circle, with programs like Anglo American's HIV/Aids policy. Sunter makes clear that the economic benefit to the company of HIV screening for all employees is the legitimation for providing personal health benefits to all employees. Language support arguments share in the perceptual or memetic contemporary environment.

departments is calculated according to numbers of 'Full Time Equivalent Students'). Language support courses may have 'subtexts', Foucault 'allegories', which enable one to deconstruct some of the conflicting motivations which led to them, one being the increasing financial crisis in universities. Only five years ago, 76% of the respondents in a survey among lecturers on language support (Orr 1996: 37-42) considered that language support teaching was necessary, but 'someone else's responsibility'. Now economic constraints make the provision of service courses attractive. Morale of South African academic staff is decreasing as student numbers drop and transformation re-aligns departments. Redeployment and retrenchment threats lead to competition for students to justify departmental viability. Institutions also have a vested interest in providing support courses; new ways of assessing cost centres in institutions generate the perception of need for them.

Competition in evolving systems, whether cultural or genetic, forces species to seek niches in which individuals who are suitably adapted manage to survive; conversely, where a niche provides evolutionary advantage, however slim, in a stressful environment, some species will thrive in it. Pressure in the evolving academic system forces formerly 'fit' academics to seek advantage in niches which they hitherto rejected, and forces competition with those quiet individuals who have always lurked in the formerly unpopular holes. Support courses seem to provide such niches, as one of the few growth areas in a field of cut-backs. Those who formerly avoided 'communication' or 'English Special' are now willing to employ cryptic colouration, find an interest in 'discourse', and reinvent themselves as communication teachers. It is unfortunately true, however, that support courses are labour intensive, and that ten students at honours level or fourth year, or five Masters students, earn in FTE's for the English department

the same as 100 support course students. Despite the real need for language support, in terms of viability, large scale support may paradoxically be rushing English departments towards the extinction of what their members love, and are trained to do — teach literature. The other consequence is that language support courses may be taught by, and funding provided for, lecturers who are untrained linguistically.

Another lesson from UNESCO language policy (Limage 1998: 5) is that it is not possible to identify a single strategy which would be applicable everywhere; in any case, diversity and competition among literacy providers encourages experimentation. Literacy instruction has been most successful when combined with teaching practical skills (Limage 1998:11-12), thus fulfilling the desire of functional linguists to relate language to language *use*. Developing functional literacy often involves teaching basic scientific knowledge, or developing technical capacity. There is consensus (Hutchinson and Waters 1987:51; Limage 1998:12; Heugh 1998:166-7) on the value of

- specifically applied learning, which has clear practical applications in the lives of the learners, and routes to those applications built in to the learning schedule
- eclecticism
- refusal to allow ideology to dictate one particular route to one particular goal
- thoroughly researched courses.

Heugh adds that language interventions should

- tap into what works best in local or regional economies
- use existing channels of communication
- integrate indigenous knowledge with what is useful of contemporary curricula
- use the languages of Africa in education.[7]

Limage further adds that it is impossible to avoid the politicisation of language support in Africa.

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[7] Multilingualism and its use in education will be discussed below.

The new *National Plan for Higher Education* (March 2001), based on research by the Committee for Higher Education (CHE) appeared at first to resolve some of the political problems endemic to the South African tertiary education system by shifting the centre of concern from racial (ideological or thematic) polarisation to economic and class concerns (viability). Resistance to the plan has come, for ideological reasons, from formerly black institutions who claim that they wish to maintain their identity and history (Dowling 2000:31) or who feel that adequate redress has not been provided (Seepe 2001: 31). It may transpire, however, that the effect of the plan has been to undo recent effective work in language support by removing from the system, through 'rationalisation', those who work in this field (Vista University cost-cutting retrenchment policy, June 2001).

Clearly no single ideology can be applied across the board. Although different regions, times, teachers, institutions, levels and purposes share the same *paradigmatic* language and cognitive needs, perceptions and ideologies play a determining role. Support therefore has to be continually re-negotiated. For this reason, choice and eclecticism are the most practical ways to approach the formulation of the core materials of any language support course. Those lessons from the African colonial past provide conclusions which are similar both to those drawn in England, and those derived from present practical experience.

The provision of language support is competitive for many reasons. Demands, input and expectations come from many sources: client departments (a diverse group with widely differing demands); English departments; academic development groups and language theorists; students and SRCs; funders and university administrations; and finally government. Of all those groups who see themselves as stakeholders however, it has traditionally been the task of the English

department to create and teach support courses.

Departments who want support courses for their students often have in mind a service different from that provided by English departments. To return to the question of terminology, the words *English* and *language* mean one thing to the science or law department (usually 'grammar'), another to the English department (often, but not always, 'discourse'), and yet another to university managements and political groups. The slippage is a source of potential conflict.

Although in most fields students choose the courses they want to study, they are not asked whether they want support or bridging or communication or practical English courses — they are diagnosed as needing help. And yet they often have clear ideas of what they want (Sutton 1992:88; Hutchinson and Waters 1987: 43-58), and what they are paying for. Support courses are low prestige courses. There is no necessary relationship between need as perceived by the institution and by the learner (Hutchinson and Waters 1987: 57). For this reason, language support courses have an inbuilt barrier to acceptance by students; it is a commonplace that students attend them erratically unless coerced. In contrast, *online* language support attracts students because of the perception of what they are choosing. In online learning, literacy skills, tools and strategies are acquired by default as by-products of more desirable, chosen skills. Acceptance is enhanced if students gain credit counting towards their degree, or a certificate for a short course, and if, as is possible, they can proceed (asynchronously) at their own pace (Sturtridge 1997:68).

In the 1980s literacy support was a 'site of contestation' in universities; it has only belatedly

gained respectability in South Africa as awareness of discourse theory and of systemic functional linguistics spreads. Linguistic competence is beginning to be interpreted as more than a marker or indicator of the progress of students — it is *part of* their progress. Verbal accounts of what was done in the lab do not 'stand for' what was done, but are part of the same continuum of reality, and the discourse used bears meaning as part of the legitimation system of the discipline. Therefore support in the discourses of specific disciplines has begun to be valued, especially for L2 students. *How* support can be institutionalised is another topic.

The need to produce acceptable results has accelerated the move towards new language support courses. Despite injections of European and American aid and four years of redress strategies, academics, researchers and industrialists are in consensus that education in Africa is in crisis. Titles of papers in the *Report of the Education Africa Forum* (Hofmeyr and Perold 1998), such as 'The challenge of reviving a culture of learning, teaching and service in the education system' (Mda), 'Teacher redeployment: What went wrong?' (Garson) and 'What makes schools effective?' (Potterton) suggest that problems in education permeate every aspect of the system, from funding through qualifications frameworks to motivation and resourcing. In consequence, students present cognitive and practical deficiencies at tertiary level which require not just support but remediation.

Communication courses or programs for specific subjects like law or the sciences may be set up either by or for individual departments. One consequence, however, of non-specialist provision of language support is the reinvention of wheels. Perceptions by non-linguists of the needs of their students differ from the usually more permissive perceptions of trained linguists; non-

linguists often 'regress to treating language at the level at which it is presented in the early years of secondary school' (Halliday and Martin 1994: 17). On the other hand, scientists mistrust the web of words which arts lecturers can weave round an issue.

Notions of what language support entails therefore work on many thematic fronts in defiance of the discipline of linguistics, and often based upon unexamined ideologies. Narrow interpretations of language support, combined with the need to provide assessment by marking, can reduce courses to exercises in 'error' correction.

Error correction has implications beyond the personal. In his discussion of the use of dialect in the academic writing of Scottish students, Hans Speitel (1976: 44) suggested [8] that a survey of the opinions (as opposed to linguistic knowledge) of teachers about the use of dialect would give information about what they labelled 'sloppy' or 'weak' or 'poor' English, and about what 'mistakes' they felt bound to correct. In his experience teachers rejected dialect words as unacceptable — those were often words which students themselves did not recognise as dialect. Speitel argued that those (Scottish) teachers were in fact operating an unacknowledged censorship of Scottish linguistic forms by preferring standard English, as though Scottish were a register of English inappropriate to high or literary style; in effect, Scots as a language has competed with English since 1703 and been found to be less 'fit' — a step on the way to relegation. Speitel thus identified at one and the same time the subjective nature of what teachers mean by 'good English', and a step in the process of language death. The process has

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[8] The past tense is used because Hans Speitel died not long after this work, and the continuous present seems inappropriate to me.

repercussions for South African language support now. It may be beyond human power to engineer evolutionary linguistic change to suit ideology, but human intervention nevertheless accelerates change.[9] Teachers of language in a multilingual society should perhaps be conscious of the consequences of the language choices and approaches they endorse.

Taking the long view, evolution and biodiversity are extravagant and unpredictable systems. There is no goal, and things are neither getting better or worse — only different. They produce viable forms for no reason except to produce them, in a random manner, and in larger quantities than are strictly necessary; survival is a matter of adaptation to the environment in which they find themselves, and competition for resources. The less fit face extinction. By analogy, linguistic mutation throws up changes called 'errors' — forms which are *statistically* divergent. These forms will appear in written language. They will either be evolutionarily fit, or evolutionarily unfit. 'Fit' forms survive and find acceptance by imitation in one or more registers.[10] They do not obscure meaning and the adaptation may even enhance it. They will show up in word frequency counts using concordancing programs like *Wordsmith*, and Corpus Linguistics data-banks will show systemic changes. They survive and contribute first to synchronic, then to diachronic change. Anomalies which are now perceived as errors *may*

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9 Language planning may work on analogy with examples from ecology — we cannot (yet) change how the earth's evolutionary systems work *per se*, but our engineering interventions can accelerate change; examples are the relationship between the denuding of rainforests and ozone depletion, or between building dams and increased flooding.

10 The term register is defined in the following chapter.

eventually be accepted as part of written or spoken South African English.[11]

Forms which are, in the longer term, evolutionarily unfit may fulfil a useful, language enhancing purpose, then vanish again — transient phenomena such as some (not all) slang [*kef / kif*, *bioscope / bio*, he was *accidentalised* (=murdered for a political reason)] may or may not gain acceptance in standard South African English, and metaphors may acquire fruitful new meanings when L2 speakers hear one phoneme instead of another [he's speaking from the *hide* of ignorance; we've been trying to *pierce* things together]. This group also includes one-off 'mistakes' which obscure rather than enhance meaning, or which do not conform to the expectations of the group most likely to participate in the situation in which they occur.

In relation to programs for language support, forms in *written* formal language which are statistically divergent need editing, because students are heading towards a conservative job market; but it should be borne in mind that some of the 'errors' we red-pencil may in other spoken or less formal contexts be part of a general movement towards Black South African English.[12] 'Errors' in one register may be acceptable forms in others. The changes are not goal

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[11] Examples of such changes might be the coalescing of *been* and *being* (both spelt *been)*, concord and agreement errors, *its* replaced by *it's*, the loss of the past participial ending *-ed*; confusion of *this* and *these*; sentence structures with pronoun apposition' (aka `left dislocation') such as *Adela, she did not know who attacked her;* other changes, for example on the phonological level, seem to be (1) an acquired stammer among black politicians, denoting avoidance of dogmatism and rhetoric, and alignment with ANC political positions (2) *uhm* and *er* picked up by ICE transcripts in statistically improbable correlation with *apartheid* (Williams 1999:501) (3) Anglicisation of, or stumbling over, Afrikaans words by black S.A. speakers (an obvious example is Tim Modise's reading from *Die Beeld* on SAfm 'In the Papers this Morning')

[12] Pearl Ntlhakana (2000:17) makes a case for the gradual development of BSAE (Black South African English) as a 'new standard' replacing 'one which is imposed by a very small minority

driven or purposive, but will have an effect which appears to be so, and a cumulative effect which may participate in or contribute to a larger process.[13] Equally, code-switching can be seen as part of natural language evolution in a multilingual society.[14] It is difficult to be rigid about what is or is not acceptable as academic English. This is one point at which the themes of language support and the paradigms of language structure intersect.

A rather more objective theme of language support is the desire to provide students with the means (tools, strategies) to produce a professional performance in English. The functionalist word *performance* is often, however, compared unfavourably with the formalist *competence*.[15] *Competence* tends to be understood to refer to depth of understanding, and the ability to abstract and transfer linguistic knowledge to its application in other disciplines, in contrast with

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who no longer hold political power'. But BSAE is spoken English, not the written professional English of the academic discourses to which it would be transferred. The writer herself writes in Standard English, and avoids discussing the parameters within which BSAE on the one hand, and formal academic writing on the other, will function. The academic context is conservative, and has evolved for the purpose of communicating knowledge, not writing nation or identity.

13 On postcolonial representations of indigenous languages or of dialects in English, see Zabus 1991 'Relexification'; Todd (1982:303). Compare Okara '*Who are you people be? If you are coming-in people be, then come in*' with Conrad's *'Mistah Kurtz, he dead' (Heart of Darkness).* For postcolonial critics the difference between the first example (linguistic re-centring) and the second (racism) derives from the nationality and perceived purpose of the speaker. See also E.K.Brathwaite 'Nation Language' 1984 in *History of the Voice: The Development of Nation Language in Anglophone Carribean.* London and Port of Spain: New Beacon.

14 For a state-of-the art account of codeswitching research, see the interesting and full article by N.M.Kamwangamalu 'The state of codeswitching research at the dawn of the new Millennium' in *Southern African Linguisticsand Applied Language Studies* 2000Vol.17 No.4 November, 256-277.

15 For a discussion of functionalism and formalism, see Chapter 3: 87.

performance, which is dismissed as rote imitation or practical ability without linguistic knowledge and understanding (Hutchinson and Waters 1987: 18). Competence is the preferred term in the documents of the South African Qualifications Authority. Halliday, however, declines (1970: 145) to make a 'distinction between an idealised knowledge of a language and its actualized use', saying that it is 'either unnecessary or misleading': he prefers the pragmatic position defined by *performance*, and takes the route to adequate performance for L2 learners to be a practical one: following processes, using tools (computers, search methods, reference works), knowing where to find answers, editing, team work. [16]

The importance attached to the need to provide competence in English rather than good performance might be said to be memetic, signalling distance from the 'old' education system which supposedly endorsed rote learning, especially in formerly disadvantaged schools and colleges. The South African National Qualifications Framework distinguishes the various 'competences' to be fostered by the outcomes-based education system:

> All qualifications should help learners to achieve 'competence'. The Education Training and Development Practices Project has defined competence as having three dimensions. These are practical competence (the demonstrated ability to perform a set of tasks); foundational competence (the demonstrated understanding of what we are doing and why) and reflexive competence (the demonstrated ability to connect what we know with what we are doing, in such a way that we learn from our actions and can adapt to changes and unforseen circumstances).
>
> McLean (1998: 43)

The term competence raises questions of evaluation which performance avoids. How can one assess whether the work of students reveals competence, as opposed to good performance? If they can explain what they did in other words? Other words which are *not* part of the discourse

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16 Chapter 3: 107 puts *competence* and *performance* in their pedagogical contexts.

of the subject which they have just used appropriately? Computer-assisted support can provide a good performance, even if users have no idea how the hardware or even the software is working. Does it matter? There is a sense in which competence is at the end of a *spectrum of development* from poor performance to excellent performance. Competence is just *very good* performance. The subject of competence and performance in relation to linguistics is discussed in Chapter 3 (page 107ff.).

Language support which allows students to acquire and practice practical skills, makes it possible for L2 students to produce professional outputs. Non-linguists, and some prescriptive linguists, see the route to 'competence' as including:

- practising grammar, comprehension, reading and syntax, using the subject matter of the discipline which is being studied as examples

and / or

- teaching the metalanguage of linguistics, so that students 'understand' what a sentence or paragraph is, what a noun, verb or object is.

Neither approach can guarantee the goal; true competence is an unattainable ideal, better replaced by the functional notion that good English is English which is *appropriate* to the situation in which it is used.

English, and attitudes to English, evolve and change. Changing perceptions of the kinds of language which are appropriate in formal contexts influence the kinds of English written on campus and so the kinds of support programs funded by universities or outsourced. It is probable that there will be a time lag between the observations of linguists and the implementation of these observations in language support. Academic English is moving towards 'more democratic forms of discourse' (Halliday and Martin 1994: 21). Some distinctive features of format (report

formats for example) and style (the use of the passive) are in some situations now less rigorously adhered to. Democratic forms of academic English are no less complex paradigmatically than the high registers once favoured, but they may conform to lower registers with which students are familiar. Support courses in Southern Africa might therefore be less prescriptive (McArthur 1999:2).

Several factors contribute to the democratisation of formal academic English. Shifts in educational philosophy towards the concept of the student as a client paying for a service, the right of all to education, the idea of life-long learning, the opening up of formerly arcane subjects through the World Wide Web, and relaxation of tertiary entrance qualifications, have all contributed to the development of more experiential styles of writing. New, non-discriminatory or gendered or individual styles are beginning to appear in contexts formerly the preserve of high, academic registers.

As a new genre with it its own netiquette, e-mail and the internet have brought egalitarian English to previously formal contexts (McArthur 2000: 35; Li Lan 2000:23-29; Li Yongyan 2000: 30-40). In emails for the first time one can discuss academic subjects in colloquial but written English — 'an ordinary voice'.[17] Radio and television education, video-recording and multi-media teaching, the computer and the tape recorder have also contributed to a blurring of

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Academic Englishes may become placeless and classless because of the levelling power of the Internet and e-mail, where new registers and new forms of old registers, are evolving. Status markers are absent, or changing. A sort of Darwinian selection is operating in favour of breathless haste, no shouting (Caps), no pontificating, no long relative clauses and periodic sentences, and first name terms. Will the e e cummings style 'i' for 'I' survive? It saves time, no shift or caps, but seems affectedly modest. How will the shibboleths of nineteenth century grammar mutate in this new context?

boundaries between the written and spoken languages of academic discourses, and between both of those and formerly 'lower' registers. (Halliday and Martin 1996: 21). The capture of spoken language has created new fields of study in arts faculties. In addition, post-colonial Englishes consciously resist the national English of the centre of Empire. [18]

Support courses could acknowledge those changes, by relaxing their prescriptive approach to L2 English, and by providing access to computers for L1 and L2 students, thematically (and dramatically) changing the face of language support.

One might also question the value of the traditional academic essay for most undergraduate students, in relation to any task they may perform later as employees. Writing an essay is perhaps not the best way to learn to construct an argument. In the sciences popular science writing is a new industry. If language support programs genuinely want to empower students to compete in a changing world they should perhaps acknowledge both the new Englishes and the new ways of disseminating them, and also re-investigate the genres and formats which are currently used.

Another thematic approach to language support course design, which answers an acknowledged need, deals with writing for science students. It prioritises the ranking and ordering of ideas over grammatical and lexical articulation. Halliday and Martin (1996), for example, suggest that the

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[18] Professional L2 writers do not want to imitate European writers, but seek their own voice. A survey of recent post-colonial writing in academic journals will support this. See Toni Morrison *Playing in the Dark* (1992); Parakrama's 'Introduction' (1995) — an academic article written in a transcription of his spoken regional dialect; Jamaica Kincaid *A Small Place* (1988); Stuart Hall 'The Class Struggle in Language' in 'The rediscovery of Ideology' (1982); Phillipson (1992: *passim*). All of those writers consciously want to undermine and de-stabilise formal academic English.

main task of the science writer is to construct, structure, restructure and interpret the taxonomies by which scientific classification takes place, without which words or discourse cannot be meaningful. Martin, further, suggests (1996) that students should be taught to replace 'childish' narrative writing with nominalisation techniques. Personally I would not agree that this makes for 'better' writing' — the logical conclusion is the almost incomprehensible abstraction of the writing of Homi K. Bhaba. Physicists and mathematicians may however resist the articulation of either linguistic or cognitive practices, placing the study of mathematics and the practical aspects of their subject at the core of their discipline (Penrose 1999: 94-5). For them a support course *should* deal with the surface of the language — grammar and syntax — as a cosmetic process to clarify and present materials reached by non-verbal logical, or mathematical, methods; to teach content they would be certain that a scientist is needed not a language teacher. Post-structuralist interest in how the medium re-writes the message would not be acceptable, because for science the message is paradigmatic, not thematic, and should have no ideological spin. For such teachers 'the practical work [is] the source of knowledge, with language just a descriptive commentary' (Sutton 1992: 2-3). Park (1998: 133) claims that 'language is the medium, not the goal'. This difference explains why science faculties tend to mistrust language support provided by arts faculties.

A second reason for a humanities / sciences split over language support is ideological. After 1990 some support courses espoused 'politically correct' approaches to 'English'. Those courses replaced physics or chemistry or law or history as content materials with social issues. A further wave of politically correct content argues at present for a rejection of 'Eurocentricity', and for a move to 'African knowledge systems' as a means of producing social change. This approach

parallels North American attempts to assist students from minority groups whose lower pass rates in maths and science were attributed to Eurocentric or discriminatory teaching (articles on 'Mathematicians of the Black Diaspora' and 'Africanisms in American Mathematical and Information Sciences' and links to related sites can be found at http://www.math.buffalo.edu/mad/mad0.html). The Africanisation movement is based on a confusion between paradigm and thematics; it tries to destabilise traditional language support in English, by labelling the cognitive processes of academic writing and thinking as Eurocentric. It is however genetically improbable that human thought processes diverge on cultural or national lines to the extent that African students need a different kind of language support for tertiary subjects from that needed by students in the rest of the world. And conversely, 'individuality is everywhere' (Jones 2000:58)—two pink-skinned siblings will differ genetically with relation to specific abilities. The laws of human reason and logic have evolved with human life on earth, and are universal. They must always have informed the practices of the herbalist, the sangoma and the tribal leader, otherwise their practices would not be successful. 'Critiques of Eurocentric science' do not produce professional expertise or market-related abilities. North American approaches, however, influence support teaching for L2 students in Africa, raising thematic and ideological suggestions such as that African teachers should teach African students, and African or indigenous knowledge systems should inform African learning processes.[19] English, Englishes, indigenous languages, globalisation, multiculturalism and multilingualism would form a possible topic or thematic for language support content, within the wider context of language support as the acquisition of tools, strategies, resources, discourses or registers, and methods.

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[19]Both of those suggestions have been made (Vista University management) in 2001.

A cultural approach to language support has a long heritage:

> We must never merely discourse on the present situation, must never provide the people with programmes which have little or nothing to do with their own preoccupations ... programmes which at times in fact increase the fears of the oppressed consciousness. It is not our role to speak to the people about our own view of the world, nor to attempt to impose that view on them...Education or political action which is not critically aware of this situation runs the risk of either 'banking' or of preaching in the desert.
>
> Freire (1972: 62.

The dichotomy between what 'we' can do, and the 'people' who will passively 'be provided' with programs is not acceptable. All learners have the right to choose the *same* kinds of academic or vocational education, and there is no justification for assuming that 'the oppressed consciousness' does not aspire to the same 'world view' as 'people like us'. Paternalism sets up polarities and binaries. Hagan for example uses the motivational register of the sermon to advocate 'Africanisation':

> In order not to resign ourselves to forever seeking to see the world through borrowed cultural lenses, Africa has to secure the minds of Africans and so cultivate them, that not only shall we not throw away our own cultural lenses — our concepts and categories of thought — but we shall also change those lenses, as we enlarge our vision...to inculcate and domesticate the thinking of African thinkers and decision makers through education that is in tune with African traditions and socio-cultural environment.
>
> Hagan 1990 quoted Limage (1998: 425)

This is a political statement couched in Biblical prose (the syntax of the Authorised Version of 1611) with overtones of war vintage Churchill, interpellated into a linguistic context, paradoxically calling for Africanisation while clinging to canonical prosody. All of these accounts fail to discuss *how* to 'indigenise' language support, and how to evaluate it in terms of graduate success and marketability. They present rhetorical and ideological memes as more germane to student success than economic realities.

Education, and language support, need not be about culture or identity; the 'real' world, with more than social needs and solutions (Sutton 1992:89), contains real problems we should not ignore. For example, of a class of 80 L2 science students who watched an explanatory visual film of the process by which lightning was generated, more than 60% could not afterwards put in order the steps by which the process takes place (Vista, 1998). Language interference in this exercise was minimised (although the commentary was in English, the film was visual, and students were asked to draw flow charts of the process, not write about it), and the relation between language and the 'real' world central. It may be that social problems will be better solved by analytical thinkers than by socially sensitised thinkers. A liberal humanist ideology for education, and so for language support, might be summed up in the words of John Muir, founder of the Yosemite National Park. The need to comprehend in its totality the world in which he lived, produced a delight in life-long learning:

> I wandered away [in about 1860] on a glorious botanical and geographical excursion, which has lasted nearly fifty years and is not yet completed, always happy and free, poor and rich, without thought of a diploma or of making a name, urged on and on, through endless, inspiring, Godful beauty...I was leaving one University for another, the Wisconsin University for the University of the Wilderness.
>
> Muir (1987: 145)

Muir's background was not that of an educated élite, but of the Midwest frontier, and was characterised by hardship of a kind which equalled in poverty and toil that of the most deprived of third world students. He was driven by loneliness, hunger and desperation to seek consolation in learning, in order to understand the world in which he lived. The need to understand the *world*, not just oneself and one's own culture, is surely the goal of education, and understanding is consolation. This altruistic and intellectual vision of education, in the face of economic and social realities, crosses borders and ignores frontiers, and probably needs to play a part in the

over-all scheme of perceptions about language support.

Though culture and identity may be counter-productive to language support, multilingualism paradoxically enhances it. It is worth discriminating, yet again, however, between multilingualism as part of the process, and multilingualism as a theme or topic within the process. The themes of Africanisation and multilingualism are important for English language support in African universities, because they appear (unnecessarily) to polarise approaches between regionalism, and the globalisation indicated above by the democratisation of academic discourses. Global English has become a language of international communication and of academic research (*English Today* 1999: Vol.15, No.4), and is essential to students who are the potential role players of the economic future. In Africa English shares this role with other languages, including French and Swahili; *lingua francas* in West Africa 'are...the *de facto* national and international mediums of communication' in Africa, and 'superimposed international languages' serve only the interests of the ruling elites' (Heugh 1998: 161). The status of English in Africa is imbricated with post-colonial ideological complexities (Phillipson 1992: *passim*; Oladejo 1993; Parakrama 1995; Owino 1998) relating to national and cultural identities. It is worth unhinging cultural from economic marginalisation when discussing the consequences of linguistic hegemony in the context of language support, because the two are not necessarily connected. Power, economic success, education and language choice maintain complex tension:

> Scholars point to a relationship between the failure of development programs and the failure of education on the continent [of Africa] to embrace its multilingual reality.
> Heugh (1998: 161)

It appears to be the opinion of some post-colonial linguists that language support courses in

Africa should serve as tools for linguistic engineering in order to address 'the exceptional social meaning of English and the low estimation of African languages' (Webb 1998: 72), rather than as support for specific tertiary disciplinary needs. Some feel that language policy makers should work to *change* the perceptions and desires of language users (Brown 1998: 56; Heugh, Siegrühn and Plüddemann 1995; Heugh 1995; 1998; Webb 1992; 1998). This ideology suggests that linguistic hegemony produces, rather than is symptomatic of, economic failure. The alternative view is that natural shifting of power bases for complex reasons, combined with economic mismanagement, accelerate language change and death. This ideological discussion can have no resolution other than the pragmatic and personal one on which individual language teachers choose to work.

It has been suggested that African languages should be promoted institutionally 'by providing incentives for their use' and that rewards should be given to teachers and administrators 'for promoting African languages' (Webb 1998: 82) — the discussion does not say how such an approach to language support will assist students to use the discourses they need. If one can learn from history, then the lesson that it is a bad idea to pronounce upon what the masses should be persuaded to do, and to offer rewards (bribes?) to further ideologies would seem to be one of the more obvious lessons. Except in tertiary institutions, African languages like Xhosa or Zulu or the other official languages of South Africa are not endangered (unlike the San and Khoekhoen languages), and it is paternalistic to assume that they need 'our' help and encouragement. The purpose of tertiary language support becomes distorted:

> Applied Linguistics must by its very nature take sides...There is no such thing as neutral Applied Linguistics...When there are programs for teacher training and curriculum development in English, but not in local languages, linguicism is in operation.
>
> Phillipson (1992: 306)

and

> From the point of view of Halliday's classification (1975:3,87; 1985:7)...the pragmatic function [of English] enables them [students] to participate in the global economy...But when we consider English in its mathetic function (language as 'reflection', as 'a resource for thinking with' which serves in 'the construction of reality')...the full implications of the post-colonial role of English become apparent...It would still keep the world divided between 'knowledge generators' and 'knowledge receivers'.
>
> Parakrama 1995 *De-hegemonizing Language Standards* xxi-xxiv.

Notions of identity construction and power are simplistically conflated with the dynamics of capitalist economy — *post hoc, propter hoc*: 'The International Adult Literacy Survey is hegemonic knowledge — i.e. it is a device of ruling' (Darville1998: 344). Effect is interpreted as intention.

The cognitive component of language support in The National Plan for Higher Education in South Africa (March 2001) produced for the Minister of Education Kadar Asmal [NHE document] explicitly promotes 'indigenous knowledge systems'. Ideological perceptions of English as the suppressor of indigenous culture in Africa are derived from post-colonial writers such as Achebe and Ngugi, who in turn have not updated their understanding of language since Sapir wrote:

> Human beings do not live in the objective world alone...but are very much at the mercy of their particular language...The worlds in which different societies live are distinct worlds, not merely the same world with different labels attached
>
> Sapir (1929 [1946]: 160-6)

Those words are seminal both for discourse theory in Africa (language support should be integrated with specific disciplines) and for post-colonial theories of language, culture, nation and identity. For Ngugi wa Thiong'o (1981:13) the native language reifies the essence, in an

almost sacramental sense, of national and cultural identities in Africa.[20] Achebe, on the other hand, called for 'a new English...altered to suit its new African surroundings' (1964:61-2). In neither case, however, was the writer concerned with the language of *learning* or of *professional* communication in the work place. Post-colonial linguistics, like definitions of 'errors', need not be applied across all registers.

In Europe in the 1970s, faith in cultural unity replaced such cultural relativism (Bruner 1976:60) at the very time when the memes of linguistic and cultural identity was espoused in support of African nationalisms. In countries where language support was a growth industry, the native language became the embodiment of liberation culture. Post-colonial thinking still maintains that the taxonomies of Europe are crucially and essentially *different* from those of Africa. In contrast, systemic functional linguistics takes a pragmatic approach, seeing English in its global form as divorced from English as a national language and as a collection of registers appropriate to many different contexts, defined in practical terms by their use.

This digression maps a contested frontier in African education between linguistics *per se*, and 'institutional linguistics'. Linguistically, multilingualism or Africanisation are themes or ideologies, not paradigms, of language support, and cannot operate on the same fundamental

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Ironically, without Anglophone publishers like Heinemann, Routledge, Oxford U. Press, Penguin and many others, African writers would never have been published. Achebe's *Things Fall Apart* would not have preserved his account of Igbo culture, doomed by genocide in the Nigerian Civil War, for posterity; and Ngugi's *Decolonising the Mind* would not have propagated post-colonial attitudes about nation and identity. The spread of dominant languages does not *necessarily* entail the deaths of other languages: 'Some languages are endangered species, and English can be used as a means of preserving as well as killing them' (Webb 1988:71). And see Nigel Crawhall (1998: 231-47) on preserving San languages.

level as linguistics in relation to course design. The all-pervasive use of *professional* English cannot be changed in any predictable way by social or linguistic engineering or by legislation alone; it has an evolutionary life of its own, probably beyond the volition of human beings (Halliday 1992:87). Professional registers are not those of literature, nation and narration, culture or identity construction.

To what extent Africanisation is cosmetic and tokenist, and to what extent it signals radical re-alignment is open to debate. The NHE document states the need to

> encompass possibilities for enhancing redress for historically disadvantaged social groups through unhinging institutions from their past and setting them on new roads to development in accordance with social needs.

This rational and pragmatic statement evoked reactions from formerly black universities, who wish to preserve the identities (as 'black' institutions, and 'second class citizens') which they formerly resisted:

> The Report proposes... the destruction of the historically disadvantaged institutions — including historically black universities, and some technikons — and the marginalisation of the African student....It raises the expectation that our historically disadvantaged institutions will be empowered to follow a developmental trajectory. However, these hopes are soon dashed when we read that 'the categories of historically disadvantaged and historically advantaged as applied to institutions are becoming less useful for social policy purposes'.
>
> Dowling 2000 (Sept 8-14: 31)

Dowling asks whether 'identity' or economic empowerment is more important for African students; do they need 'visibility at the centre' (ib.) or equal opportunity? Are 'developmental trajectories' economic or ideological? The argument 'locks-in' to a post-colonial position, although a more pragmatic, flexible and therefore successful model would respond to environmental and situational and economic change on the lines of Sunter's 'perpetual transition

mode' (Sunter 1996:9; Hutchinson and Waters 1987:51). As Sunter says: 'It is more difficult to unlearn received wisdom than to learn new truths' (1996:67).

> It is *imperative* that universities see themselves as primarily responsible for finding *viable mechanisms* to set a process of language learning in motion that will enable both students and learners to meet the needs of a multilingual society.
>
> Dowling and Maseko (1995: 106)

[my emphasis]. The objections to the National Plan suggest that redress is primarily ideological.

Another less verifiable and more conspiratorial thematic of the growth of language support in English relates to agendas behind funding of support. Phillipson suggests (1992, *passim*) that English language support throughout Africa has fulfilled a hegemonic purpose.[21] British Council bursaries request that recipients agree to return to their countries of origin and 'promote British interests' (2000). The Ford Foundation document on *Transformation in the Humanities* (U.C.T., 2000) advocates academic transformation in Southern Africa which clearly supports American interests in the region. Courses may perhaps be compromised through collusion with politically motivated funding. This scenario was important in the apartheid era; it is now equally important in relation to African-American funding of Africanisation policies in South African tertiary institutions.

Global languages in Africa are artificially protected as the preserve of a minority because the

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Phillipson claims that structures established since the 1950s to support English language teaching round the world have 'protected the interests of the Centre' without hegemonic conspiracy theories, because ' their speakers have the power to secure advantages for their own group, among them linguistic advantages' (1992: 305-7). English language teaching is legitimated by 'progress'. See further Mesthrie (1991: 201-239); Pütz (1992: 359); Heugh, Siegrühn and Plüddeman (1995: 35-63).

majority are excluded from access to education (the result of factors few of which, as Phillipson acknowledges, are deliberately hegemonic in intent). The feedback effect is that language use both intensifies the gap between rich and poor in Africa, and is an analogue for that gap. Post-colonial writers conflate English in its global economic role with English in its former hegemonic, ideological role. This former role also functioned by means of a negative feedback effect. Protesters at the DAVOS Conferences (Seattle, 2000, and Munich,2001) confirmed their faith that globalisation in the service of international capitalism (multimedia communication and neo-colonial standards) threatens third world identity and the (supposed) pristine third world environment. This topic might also be a valid theme as content for a language support course, but it is not a reason for discontinuing, or not providing, language support.

Languages compete for space as species do, and the fitter and more adaptable will succeed and replicate themselves at the expense of others ; 'fitter' most frequently meaning, in language contexts, piggybacking upon (co-adapting with) economic success. An example might be the presence of English in the territories of Irish or Scottish Gaelic. In multilingual nations, it may be the case that each language will find its environmental niche or register(s) and competition will be replaced by a symbiotic accommodation where each derives benefit from the presence of the other.[22] Examples are English after AD1066 *vis-à-vis* Norman-French or Latin; Dutch and indigenous languages in the 18th and 19th centuries in South Africa; in both cases the immediate effect, although occluded now, must have been disastrous.

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See for example Todd (2000: 6-10) where she demonstrates convincingly that many lexical items noted by Craigie as 'of unknown origin' in the OED are probably of Celtic origin. She shows that Celtic languages may have merged with old English, a linguistic analogue for integration rather than forced dispersal, as was previously believed. DNA sampling of Norse skeletons supports a similar model in relationships between Celts and invaders.

Language support courses and programs in South African universities are therefore faced with conflicting needs of 'becoming modern and returning to sources... there is no linguistic rationale at present to justify the institutionalisation of non-standard English' (Wright 1996: 158). The fact that there is no 'linguistic rationale' is not a convincing argument to native speakers of 'other' languages in their own land. But 'institutionalisation' of Black South African English, or of any artificially engineered 'standard' is also not a practical or realistic or useful project, *pace* Ntlhakana (2000: 16) in terms of how language changes or of student needs and articulated hopes.[23] South African English may fill a niche, or several niches, without necessarily competing with other languages in other niches (or registers). Languages may maintain symbiotic relationships where each nourishes the other. As the economic balance among groups in Southern Africa is redressed, language relationships *will* change.[24] This dynamic is also a field for research (using the statistical methods of corpus linguistics, not intuition or language sampling and questionnaires).

A perception prevalent in language support is that upper middle class British English is the standard by which L2 speakers are judged, whether in England, India, Africa or Australia. Labov (2000) demonstrates that such a stereotypical belief about English is not ratified by the evidence

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23 See the English Academy debate on this subject, where the two sides, coming as they do from different ideological starting points, can never meet. In *The English Academy Review* Vol.10, December: 14-25.

24 Tripathi (1990: 34-8) testifies to a widening gap in Zambia since independence, between those who are proficient in English and those who are not, making English the key to power. Although language use correlates with register (English and indigenous languages are used in clearly defined situations in education) it is ultimately determined by participation in economic affairs, business and government.

of sociolinguistic research. Except in the artificially protected environments of school classrooms, the *non*-standard forms of English in England and America appear to be more prestigious among the young upwardly mobile agents of language change; the crucible of linguistic change is the lower-middle and upper working class; imitation works downwards, not upwards. Labov also indictates that differences between African American Vernacular English and White Vernacular Englishes in America are increasing, not decreasing, as the black / white *self-selected* segregation gap increases. His work confirms that Englishes are diverging from the centre, and that 'British English' should pose no threat in Africa.

> Regional differences are growing stronger despite all expectations to the contrary.
> Labov (2000: keynote address, LSSA Conference)

Educationalists who reinforce artificially in schools and colleges the 'non-prestige' Englishes of academic writing and (supposed) British English speech are fighting changes which are inevitable. 'Afrikanerisms' or Xhosa features of the language of students are also probably best interpreted as aspects of code-switching or inter-language rather than as 'errors'.

In other words, the English of language support should not endorse false or imaginary standards.

At the same time, L2 students are deserting departments of African languages for practical English courses, computers and English communication. The interpretation of their registration distribution may reflect the quality and content of the teaching of African languages in relation to need, so may have more practical than cultural significance. Accurate statistical evidence would be required before one could claim cultural change on the basis of language distribution in work and education situations.

B. Jeffery Computer Language Support for Tertiary Students

English need not be seen as a cultural threat in its role as the language of the lab, of computer software, or of the World Wide Web. Mitchell for example (1995: 128n.37) promotes multilingual prompts and cues online. The field is wide open for African computer professionals to create options for indigenous languages. Chapter 6 shows ways in which African languages are used naturally and unselfconsciously in the computer lab and how they accelerate learning.

So on the one hand, memes of post-coloniality and nationalism piggy-back upon the narrative of English as hegemonic monopolist: on the other, memes of economic growth piggy-back on English as global unifier and communicator. Both of these narratives oversimplify. In the academic situation, both of these memeplexes are replicating in conflict with each other, and one battle site is the English language support course or program. School education policies are equally in a state of uncertainty.[25]

Research presented at the First International Conference of the Linguistics Society of Southern Africa by Peter Broeder and Guus Extra (2000) on their work in the schools of Durban and Cape Town encapsulates this argument, which in essence pits perceptions against statistics. Their statistics for language preference provide a baseline for language planning in education, but were hotly contested at the LSSA International Conference in January 2000.

> *These facts should be prerequisite* as a basis for the formulation of educational language policies, both in terms of languages to be used as medium of instruction and in terms of languages to be taught as subject at school.
>
> Broeder and Extra (summary, LSSA Conference January 2000)

One audience member suggested that the statistics of 'outsiders' could not be valid. The lecture

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[25] Mesthrie *et al.*, 1999, *passim*.

generated anger and one can only conclude that, in language planning, perceptions about language are more important than facts and statistics. In a survey of language preference at Vista University among third year students of English pre-sensitised to language problems by courses in identity construction, representation and the language of the African novel, over 90% said they wanted to be educated in English, while over 90% *also* said that they would bring up their children using isiXhosa or Sesotho at home. These results are in line with those of Broeder and Extra.

Those un-resolvable arguments suggest that language choice within language support should flexibly reflect the multilingual cultural environment in which South African students live and work. Students can acquire professional language skills in whatever language they wish — the methods for planning, thinking, research, professional presentations, referencing, editing, reproduction and graphics are the same whatever the language. Dictionaries and reference resources are available.

Needs can only be serviced if funding is provided.[26] If students are to achieve their stated desires to become professional middle class citizens, they are faced with competition within a capitalist global economy,. African universities are under-resourced.

> The *minimum* requirements [of the American tertiary lecture hall] are a computer workstation integrated with the podium...and lap-top computers to capture and annotate [information].
>
> Mitchell (1995: 24)

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26 Private funding and sponsorship from business and industry is readily available for good literacy projects in South Africa. The management of external funding within an institution demands a large percentage of the management time of a project.

> Bit City ...is the capital of the 21st Century.
>
> (*Ib.* 69)

Sunter recently amended his statement that 'the new haves and have-nots are those who are or are not computer literate': the divide is now, he says, between the 'haves' and the 'want-nots', because access to computer literacy is available for all (SABC broadcast, 2000). But in practical terms it is still the case that 'while the linguistic system construes us [human beings] as lords of creation...the regular exercise of *choice within* the system, construes a fractal pattern whereby some of us are lords over the rest' (Halliday 1992: 90).

> The most fundamental challenge... will be to deploy access [to the online world] according to principles of social equity — not in ways that heighten the privileges of the haves and further marginalize the have-nots'
>
> Mitchell (1995:170-1)

Jenni Karlsson (1998: 48) relocates the meaning of 'a resource-rich environment' in 'access to a range of curriculum-oriented learning resources'. It is possible to create a 'resource-rich' online or multimedia environment by replacing cost with effort, as Chapter 6 below explains. Lack of expensive resources motivates intense participation by teachers and learners to provide a wide variety of information literacy skills (*ib.* 51), acting as an incentive when the outcome is clearly an enhancement of the marketability of students skills. At the same time, for tertiary students, computers, expensive site licenses for software, and expensive IT support, are not optional but necessary means to 'information literacy'. Lack of skills among lecturers, coupled with conservatism or inertia, in addition to cost, bar the high-tech road to success.

At a global level, the issue of 'competitive social funding' (Limage 1998:11) disrupted meetings of the International Monetary Fund and the World Bank in Prague in September 2000, over mis-spending of resources in Africa and the IMF insistance on the repayment of developing

countries' debt before resources are allocated to education. While on the one hand Trevor Manuel is mandated to request that the poor must have a bigger voice in the economic management of their destiny, the provision of that voice and the fulfilling of destiny depends both on funding and facilities, and on making use of the facilities which are already available.

The anticipated 'global crisis in education' (Garbers 1998: 118-121) caused by rising student numbers has not materialised: on the contrary, in Southern Africa, universities now face crisis through low enrolment, budget deficits, ideological conflict and now perhaps also the impact of HIV/Aids. Students are opting for purpose-focussed courses which, in their perception, lead to employment, choosing technikons, private higher education institutions such as Oxford Brooks, Damelin, computer courses and technical training courses. As mentioned above, employers on the other hand look (2000) for the skills provided by general, formative degrees. Projected HIV/AIDS statistics predict a further fall in student numbers.

Bot (1998: 128-135) shows that funding, facilities, student achievement levels and technological expertise in teaching support have barely reached the basic standards of 1970s America. The technology is available, but while some universities and technikons are moving towards the goal, others are still concerned with the thematics of transformation processes. There are many third year science students in South Africa who have no computer access, and others with access but no personal login code. Students are graduating with degrees in Business Management and Law without having used a pc. Writing lab management can empower all of those students, and is a learning process which requires an investment of effort and time, and a transdisciplinary approach.

In conclusion, *any* thematic approach to language support courses or programs may in itself be valid, or even essential; but at the same time, because thematics are produced by, *and* intended to satisfy, strongly held inherited ideologies and current perceptions, each should first be examined with the scepticism that Lyotard, in *The Postmodern Condition*, recommended towards master narratives. Although thematics have to be considered as part of the institutional vision for courses or programs, currently preferred memes or memeplexes should not be used to endorse or reject them. If support is to explain as well as correct, then the basic structure of language support should be designed paradigmatically, even though the paradigm will be invisible to learners or users.

Perceptions of the need for language support, and of the kind(s) of support which are needed, are therefore riddled with uninterrogated memes and assumptions.

CHAPTER 3

Systemic functional linguistics as a paradigm for language support programs

> *Language does not passively reflect reality; language actively creates reality...Our 'reality' is not something ready-made and waiting to be meant — it has to be actively construed...language evolved in the process of, and as the agency of, its construal. Language is not a superstructure on a base; it is the product of the conscious and the material impacting on each other.*
>
> Halliday (1992: 65)

Software programs are algorithmic in structure. They may be complex in design, but they must be simple and intuitive to use, especially if they are to be used by students of varying degrees of computer literacy. The interface translates complex, planned design into simple, apparently free choices from the point of view of the user. It should not intrude between users and the information they seek. In order to structure program *design*, the programmer has to structure the program *content* (information, tests, practice, help, and so on). If the program is a language support program, then the contents of the set called 'formal academic English' or even more generally 'good English', have to be organised in such a way that students and lecturers who use the program can find the information they want to use. [1]

It follows that the supposedly loosely connected subsystems which make up the academic discipline 'English' will have to be arranged to accommodate all the potential paths that users with different agendas, needs, subjects, may wish to follow. Users need to know where they are

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[1]The study of human-computer interaction is a field in itself. Warren (1991) discusses usability parameters for computer systems. There are also many more recent texts. Chapter 6 below discusses using both the program E4E and generic programs.

in relation to where they have come from, to where they might wish to go next, and in relation to 'home'. Defining what part of the entire discipline constitutes 'home', and is therefore the core of the subject and the core of the program, from which everything may be derived, is the most interesting and most difficult aspect of the exercise. Systemic functional linguistics in essence can perform this task for the programmer.

'English' may be visualised differently by different individuals — as department, tutorial room, lecture hall; or as English for law, business, communication, or BA purposes; or again, as English skills, English history, English Language and linguistics, English grammar, English literature, English genres, English theories...The discipline in real space can be imaged in different ways to structure the discipline in the virtual world. It might be imaged visually, as a desk, with reference books, pens, a computer, paper. English language support is most simplistically, and most frequently, imaged as a list of all the items lecturers might wish, in their dreams, that students knew. A list is not navigable in a flexibly structured way except alphabetically, and so links between examples and explanations create navigation diversions.

At the cutting edge of language support lie the lists of textually embedded 'errors' which support courses or programs are tasked to remediate. The list of items a language support course should contain is usually not rigorous, being made unsystemically on the basis of experience or perception. Analysis of L2 texts line by line through the eyes of an L1 marker demonstrates the unsystematicity of the raw linguistic data which confronts markers, lecturers and program makers, and the unsystematicity of the responses of markers. As classification systems, lists are simplistic, as unhelpful as the orders of animals ('animals who have just overturned the water

pitcher...animals who look in the distance like flies..'.) which Foucault describes (1998:376). They flatten the multifaceted heterogeneity of the items listed.

'Error correction' is necessary; but for correction to be meaningful it needs to be structured paradigmatically, not thematically; thematic corrections are subjective, and also, as was demonstrated by Speitel (page 52 above) may have hidden systemic and ideological implications, systematically eliminating influences of L2 on L1, or imposing formal written conventions on spoken language. Some prescriptive corrections may both hurt the student's self-esteem, and have no systemic justification. Markers might, for example, correct *nice* and *very* to *beautiful* and *extremely*, or overuse what was once called the pluperfect tense. Some lecturers focus on lexis, reifying words of latin origin as more appropriate to 'good English' than those of Anglo-Saxon origin; they replace *got* and *put* and *reached* and *gave* with *received, placed, achieved, contributed.* Others prefer periodic syntax involving the 'correct' placing of words like *however* ('second never first in the sentence'), and of conjunctions, prepositions and adverbs. Others focus on 'higher' level concerns, correcting paragraphs which do not have 'a topic sentence and two or three supporting sentences' without being able to give useful definitions of *topic, sentence* or *paragraph* except by the diversions of syntax, which again needs further explanation.[2] Personal preferences are often held by lecturers who label the English of their students 'weak' or 'sloppy'. For L2 students, however, corrections may prioritise surface at the expense of cognition, and shift focus from the 'whole' meaning of a student's work (the bit which matters

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Formalists would define a paragraph as a block containing *a topic sentence and three or four supporting sentences*; functionalists would define it as *the amount of explanation needed to elucidate one step of a plan.* Plans can be made using maps, flow charts, tree diagrams and tables, depending on the verbal formulation of the question. [*Compare / contrast* = table; *show how* = flow chart; *analyse* = tree diagram; *investigate* = map, and so on].

to him or her) to surface wrinkles. Red-pencilled corrections are demotivating.

An analysis of the writing of one L2, third year student of English literature in a typical essay (with additional examples from her peers: a group of 80 South African L2 students of English in July 2000 with several different first languages: Afrikaans 6%, Xhosa 87% Sotho 1%, English 5%, Zulu 1%,) provides a linguistic baseline. She has managed to reach third year English literature and yet her writing is not satisfactory by traditional academic standards. The complexity of the language support needed to help this single individual increases exponentially when one considers also the different needs of all the other students in all the other disciplines where support is needed. The analysis of this student essay, and two other examples of L2 writing (the Union document, and science writing), are in Appendix 4. The essay (Example 1), with marker's comments, and the union document (Example 3) are also reproduced. An elementary point may perhaps need to be reiterated, that itemising and even addressing errors in list form is not the same as providing a support syllabus or course.

EXAMPLE 1: The essay of an L2 student of English

The assignment topic was:

> *Analyse the poem 'Snake' by D.H. Lawrence, in terms of to what extent* [sic] *the poem contains evidence that Modernist poets explore their own personal feelings and experiences and of how their mind* [sic] *and emotions work in the private realm of thought, memory and desire.*

Though composed by an L1 speaker of South African English, this question is awkwardly formulated and misleading, both about Modernism and about 'Snake' (one hopes as the result of lack of time). At the syntagmatic level it embodies an anomaly, whereby the construction

following *and*: 'of how their mind and emotions work in the private realm of thought memory and desire' does not mirror that preceding it, namely 'of to what extent the poem contains evidence that Modernist poets explore their own personal feelings and experiences'. It contains an agreement error *their mind* followed by a plural *emotions*. It provides a mixture of a direct question and an indirect: neither *to what extent does the poem contain...* nor *the extent to which the poem contains...* but the infelicity of two consecutive prepositions in *of to what extent the poem contains....* There is further confusion between the two different functions of the first and the second.

The question asks the student to guess what is in the mind of the poet, as opposed to the narrator, and to generalise from this one text to a universal pronouncement about Modernist poets. It invites an unstructured and subjective response, based on a logically incoherent process of reasoning. In essence, some of the problems presented by the student writer are those of the lecturer writ large.

The essay is a composite text containing the work of at least five people of different linguistic and cultural backgrounds: the questioner, the marker, the student, D.H.Lawrence and unacknowledged incorporated words of critical writers and lecturers. As with any piece of writing, in order to analyse it, one needs to know who wrote, when, where, for what purpose, using what mode.[3] The writer of the essay, Nombuselo, is a third year, L2 student of English.

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[3] The importance of situation and context to interpretation is illustrated by 'The Fridge Note' by William Carlos Williams. Lecturers like to ask students 'Is this a fridge note, or is it a poem, and how do you know?' The simple answer: 'it is a fridge note when it is on the fridge, for the writer's wife to read, and it is a poem when it is laid out on a page in a book of poems or a text book with a binding and a nice booky sort of smell, for people like us to read' enrages literary

She is a Sesotho speaker in a Xhosa (her L3) community, and uses English to communicate with her fellow students. Despite the evidence of her essay, she is articulate, well adjusted and intelligent, and also one of very few who understood (=made sensible comments on) Lawrence's poem. The marker is a lecturer in English literature without a background in language. He writes at the end of the essay: 'You understand the poem, but your writing is in desperate need of improvement. Use a dictionary to help spelling...' He combines the diagnosis of 'writing' as the problem with a suggestion that writing and understanding are two different things, and with a value judgment — 'desperate'. He sensibly suggests using a dictionary. This suggestion may imply either that her 'writing' problem is one of lexis and spelling, or that this is the only part of the problem that can be remedied.

The task of improving only this one student's ability to write an academic essay, by diagnosing what her problems are and suggesting ways to solve them is a complex one. Failing intelligent students is not a helpful option. In addition, her response is unique — one could not extrapolate from her linguistic needs to the needs of others in the same group, or to the needs of others in other groups in the same discipline, or to the needs of other groups in other disciplines with the same or different home languages.

Appendix 4 contains her essay, with a full commentary and analysis, listing all the points which require remediation.

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theorists who like to cross the boundaries of genre and the frontiers of tradition without seeing 'language'or how it works. The 'note on the fridge' does not have the same meaning as 'The Fridge Note' in the book, not because of some difference in 'essence' hidden behind the words but because the situations and the readers are different. Therefore the meaning potential of the text as fridge note (the pool from which possible meanings can be selected) is different from that of the text as poem.

EXAMPLE 2: Mixed L1 and L2 science students [4]

Samples of writing by L2 science students at the same level and in the same situation as the student discussed above, produce fewer surface problems and clearer examples of the *cognitive* needs which should be addressed by language support courses or programs. A study of word usage misconceptions among first-year students of physics at the University of Cape Town in 1989 showed that only 2% of the students understood all the terms in the test, and also, tellingly, that over 80% of students thought that they understood most of the selected words when in fact they did not (Jacobs 1989: 2). In the tasks which are analysed in Appendix 4 (done in 1995), the ability of a group of first year science students to understand and perform a writing task was tested; they had to rank and discuss ideas which were provided for them, so that general knowledge was not needed, and they had access to information which obviated terminological problems. They were given articles to read written by both journalists and scientists. Some of the articles supported one side of a binary argument, some the other (the topic compared nuclear fuels to non-renewable sources of energy). The tasks, and the topics, had already been discussed in a lecture. In this way, the ability to understand the topic and plan a structured response was isolated from interference caused by L2 status or lack of knowledge. It was not isolated from interference from presupposition about the goals of learning. In retrospect, it is clear that a humanities student asked to compare two items will speculate, while a science student will consider experimental physical or chemical ways of comparing them. Comparisons in terms of sustainability, cost, environmental effects and so forth step outside the frame or narrative in which undergraduate L2 science students work. An unacknowledged disjuncture therefore exists between the expectations of the lecturer and those of the students.

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[4] Analysis is in Appendix 4. The language of science is discussed in Appendix 9

Task 1

> *Imagine that the director of Koeberg Power Station has been asked to defend the production of nuclear power to a group of people from a 'green' party, who will also put their point of view. Choose the side that you wish to support and write the speech you would make to persuade an audience.*

Task 2

In an exam situation the same students of science communication were given a more complex task. They were provided with referenced copies of source materials (which they had already used in lectures). The task was:

> *Write a report in which you assess the advantages and disadvantages of nuclear power.*

The results of those two tasks, discussed and analysed in Appendix 4, appear to demonstrate that most of the students could not construct a debate or draw conclusions on the basis of premisses or evidence. They may rather demonstrate, however, that an unarticulated gulf between arts lecturer and science students in effect disables the test as a genuine assessment or teaching tool.

EXAMPLE 3: Poster created by an L2 tertiary institution union member

This poster, also reproduced and analysed in Appendix 4, shows inconsistent definition of the target audience; layout deficiencies despite using a word processor; lack of editing or proof-reading; inability to use resources such as dictionaries; cryptic inappropriate content; an unrefined idea of register (rhetoric of the union meeting, without modification for the print medium). It also denies the rights of others to choose to hold meetings.

Those few examples of tertiary L2 student writing so far discussed demonstrate the diffuse and unsystemic nature of the demands placed on language support, even without taking into account

thematics which teachers and students might wish to address. The range of language issues presented by L1 and L2 student writing is by no means fully represented by those examples. It is clear that remediation is complex, and operates on many different levels, in different categories or systems or paradigms. Teachers of L2 English support courses are faced with heterogeneous *lists* of raw data, which they can approach either in the light of the memes (thematics) of language support teaching (what was done last year, what was done at UWC, what is done at UNISA) or from first principles. The raw data can make no sense without analysis. They are also faced with the job of explaining, and justifying, what cannot be explained, but can only remain cryptic, without explaining an entire set, syntagm, paradigm or system. They may also want to distinguish between 'errors' and the normal processes of language change, in systems both below and above the clause, right up to the level of genre itself.

The following table shows the unstructured *list* of the problems presented by the three examples.

List of language problems presented by three L2 examples		
style / genre conventions	definite and indef articles	pronouns
structure	clauses	tenses
editing	conjunctions	demonstrative pronouns
spelling	transitivity	qualifiers
question structure	prepositions	present participles
sentence structures / syntax	reading strategies (poetry)	past participles
verb tense and structure	registers and appropriacy	consistency
concord	influence of L2 on L1	systematicity
lexis	paragraph structures	modals
metaphors	quoting	subjunctives
idioms	referencing	word order
'reality'	historical knowledge	logic
context	background knowledge	coherence
	layout	resources
Not included, but also needed by courses and programs are themes and perceptions of language support course needs (memetic), such as multilingualism, post-colonial English, hegemonic English, body language, 'emotive language' (analysing advertisements), public speaking skills, perceptions of relevant content, integration with major courses, interactive learning...		
Linguistics: Explanations are one level up or down from instantiation **Programs** : Hyperlinks are ways of moving one level up or down		

The items on this heterogeneous list may be treated as discrete forms which can be corrected by substituting the 'right' one for the 'wrong' one (the naïve approach) ; or they may be interpreted as representing categories, sets and subsets, or choices from within systems. In terms of systemic functional linguistics, the explanation for a set is not so much the expounding of a rule and its exceptions, as the exponence[5] of all the items contained in that set, in contrast with other lists of items which cannot be contained in that set in that position. The explanation of terms on one level is the next level up or down; and the explanation of a system is the full understanding of

[5] 'Exponence' is Halliday's term for the representation or realisation, graphically or phonically, of all the items listed in a set.

the potential of that system. The table shows how difficult it would be to structure this list of language problems into a two-module or four-module adjunct *or* integrated language support course, which also might be expected to use appropriate content materials and to address general skills and background knowledge as well.

As a means of organising the list which also incorporates thematic concern(s), systemic functional linguistics provides a structural paradigm. For navigational reasons, language support software (as opposed to courses) *must* be structured: in other words, the unsystemic list of errors and needs has to be transformed at least into tree diagrams, if not into algorithmic order. Hypertext, the language of the World Wide Web, is also the means by which software programs are structured. It is discussed in Chapter 5.

The task of creating order out of lists of problems may fall to the English department, to individual English department lecturers, to lecturers in the subjects where support is needed, or to committees composed of members from English and/ or client departments — in other words the support course may be based on adjunct, integrated, multi-disciplinary, transdisciplinary, other, or no model. Those tasked may provide:

- advice, consultation for lecturers in the subject disciplines
- a different course for each subject discipline
- one course for all students

Within the course(s) they may decide to teach:

- items from the list, ranked in:
  - — random order (the list)
  - — order of communicative importance (the intuitively ordered list)
  - — order of difficulty (the intuitively ordered list)
  - — paradigmatic order

or they may ignore or be unaware of the sorts of mistakes students make, and teach:

- the metalanguage(s) of grammar and / or linguistics (not transferrable)
- content (and language by immersion)
- foundation skills, tools and resources (useful)
- a thematic of language support such as multilingualism or linguistic imperialism (interesting but not market-oriented)
- sociological and psychological approaches to university preparedness (not universally applicable)
- a mixture of some or all of the above (confusing)

In order to teach a language support course, one or more of those options *has* to be selected, and ultimately the course has to be submitted for endorsement institutionally and, in the end, nationally. A beginning point has to be chosen, and the end goal(s) or outcome(s) have to be articulated consciously or at least imagined. The academic year has to be divided into segments each of which will deal with an aspect of support. But *all* of those options produce linear lists of discrete items to be taught, and endorse the illusion of progress to a goal labelled 'competence'. Competence will (perforce) be the sum of the (selected) parts. A formalist linguist has a more idealised concept of competence, and a functional linguist a more practical one.

The list is the raw material for a software program, but it can provide only the most elementary navigable structure; the following chapter will show however, that the list is the structure most commonly used. It does not make use of the power of software design tools, and does not provide students with the paradigmatic knowledge which enables understanding as opposed to simply remembering.

Students may acquire paradigmatic understanding of how language works if the information they acquire in language support courses is contextualised within systemic structures which are clearly

understood. The structures are in effect tools or resources, not memory tests. Courses need not *teach* language or linguistics. They can show how, in principle, language is structured, what kind of language is appropriate for academic or formal English, and why, and they can do this while providing tasks which involve the tools of the trade: computers, the resources of the library, reference books, the internet, and structured, goal-oriented team work. In the context of support courses and programs, linguistics is for the teacher to use, to help structure courses, not for the teacher to teach to the students. But without linguistics, no course will rise above the heterogeneous list.

Generative linguistics and systemic functional linguistics both strive to provide an explanatory account of how language works. For many reasons, Halliday's functional approach is more useful in the context of language support software programs than is Chomsky's formalist approach:

> Perhaps we can look forward to a post-colonial linguistics in which the hegemony of American formalism is replaced with a plurality of functionalist discourses.
>
> Martin (1998:434)

Formalist linguistics posits an ideal 'Language', to the perfect performance of which L1 speakers aspire (and which by definition L2 speakers will perform only incompletely and imperfectly). Functional linguistics begins from the other end of the scale, by observing how language is in fact used in different situations, not how, according to theory, it 'should' be used. Functionalist discourses are pluralist, surveying the many fields and systems in which language operates as 'culturally and socially determined behaviour'. They cohere systemically.

> At any given moment, in the environment of the selections made up to that time, a certain range of further choices is available. It is the system that formalises the notion of choice in language.

Halliday (1976: 3)

Functionalism provides language support teachers (not students) with a non-judgmental, descriptive terminology which they can use both to understand how language works and to help students. The functional model of language incorporates mechanisms to explain

- the internal relationships among the sub-systems of which it is composed
- evolutionary changes in the subsystems
- changes in their disposition relative to each other.

Because it describes how language is used in real situations, systemic functional linguistics has the power to marry language theory with non-discriminatory, democratic, multi-purpose, multi-level practice. The raw material for the functionalist system is made up from the data-banks of lexical sets and grammatical categories or systems from which we choose when we speak or write.[6] To 'understand', in this system, means to use in a way which satisfies most L1 speakers, and / or L2 in some situations and contexts. [7] L1 speakers and writers of any language have access to a wide range of lexical sets and systems, from which they choose items which they feel are appropriate to the situation in which they are performing. Sets are lists or groups of words which are available as options in specific situations, and in conjunction with other lexical items.[8]

6

The role of corpus linguistics is the collection, recording, tagging and analysis of linguistic samples drawn by statistical sampling techniques in specific situations and contexts at specific times in specific places. Corpus linguistics provides the data banks which systemic functional linguistics draws upon. See further page 101 below.

7

I use the term *understand* in the same pragmatic way in which I have interpreted *competence* and *performance*.

8

Halliday distinguishes between sets (lexis) and systems (grammar). Sets provide open choices, because the constituents of lexical sets from which choices are made may vary. Grammar operates on a closed system, where choice is made from a 'small fixed set' of possibilities.

The definition of a set is that it is the sum of a list of items which can potentially appear in a specific context (=in conjunction with elements which mark that context), and it contrasts with similar lists in terms of the way the members of that set are used in context. Syntagmatic relationships are part of the meaning of a word and define its membership of a list. Systems are grammatical or syntactic structures which also form contrastive features from which speakers and writers choose. L2 students have access to the same sets and systems within a more restricted field of choice than L1 students, because they have less written and spoken experience *in the learned language* (not in their own languages, where exactly the same structures hold good, and where as L1 speakers and writers they have full potential access both to the instances of sets and systems, and to their functions).

Speakers and writers choose between one set or system and another, and from within sets and systems, according to the *situation* in which they speak or write. Some choices are more appropriate to the situation than others. Experience teaches what items and systems have evolved to be most often used (because most useful) in specific situations. Functionalism therefore replaces (within limits) *right* and *wrong* with *appropriate* and *inappropriate.*

Systemic functional linguistics observes that out of language divergence from standard written English in post-colonial, second language environments, new orders evolve, where the fittest (most useful or most numerous) forms will be replicated and the least fit (those which obscure meaning or which are no longer appropriate to the current environment) will disappear, replaced by more viable options. This does not mean that all one-off aberrations should be accepted — as Jones (2000:177)says, evolution is a prodigal system, design without a designer, where most

changes are for the worse not the better — but that new systems, defined as the synchronic totalities of accepted usages, are by definition, systems in their own right *at that point* in time and place. Diachronic change may be seen in terms of competition among potential representations for general acceptance. In formal written academic contexts standards vary little from country to country, though register analysis would certainly turn up national varieties. Spoken language does not have *a* 'standard' in the Hallidayan sense of the word.

Halliday identifies two main problems of writing about language:

> One is...the ineffability of linguistic categories. There is no adequate statement of the meaning of a grammatical category...
>
> The other is that the whole grammatical system hangs together and it is difficult to break in at any one point without presupposing a great deal of what is still to come...There is always a problem when language is turned back on itself.
>
> Halliday (1985: xxxiii).

The meaning of a category is not absolute but is defined as 'its use in context'. All levels, from the situation in which language is used, through all the levels of language from text and genre to phoneme, participate in the creation of meaning. In terms of computer programs for language support, this inter-dependence and systematicity and 'turning back on itself' is an advantage. It makes possible the analogue between the language web and the program web. At the same time it disables support *courses*; if one hoped in the context of the course to *explain* the corrections on the first essay in Appendix 4, to help the writer conform to the patterns of formal written academic English, one would have to embark on a chain of explanations, each in terms of the levels above and below it, and each of which would amount to a mini-course in itself. But in the context of the program web, the explanation takes that specific student into a loop of her own choice.

B. Jeffery Computer Language Support for Tertiary Students

In order to grasp 'corrections' in courses, students would need explanations in terms of each of Halliday's three primary 'levels': 'form, substance and context' (Halliday 1961: 243). The *forms* of language are the potential choices within all the sets and paradigms which together inter-relate at any one time and in any particular place as the data-banks from which language users select, in order to speak or to write. *Substance* is the actual choice made in any one spoken or written realisation. *Context* relates a realisation, in terms of its appropriacy as text, to the real social and cultural *situation* in which it is produced. That is, the *discourse* of the text (spoken or written) varies according to the kind of use to which it is being put within the *register* appropriate to the situation.

> It is misleading to think of the levels as forming a hierarchy. They represent different aspects of the 'patternness' of linguistic activity.
>
> Halliday (1961: 269)

A better word for 'patternness' with its formalist overtones (looking for the pattern in the carpet) might be 'weblikeness' — and the analogue for a program is not a two-dimensional cartoon fly-catching web, but the three-dimensional globe-like kind in which some spiders suspend their nests. Each item addressed by markers or support courses participates in its own sub-system or sub-set, inter-connected in symbiotic balance with all the others at any given point in time and within any specific register. All participate in meaning formation, and maintain their places within the language system. Although there is order among Halliday's levels, he says that 'there is no precedence or priority', and his vision (especially in his later articles) is not that of a two-dimensional hierarchy. This vision of systems interacting with each other within larger systems is a useful tool; the system can be represented analogically by a computer support program, through which students will choose their own paths to their own goals.

B. Jeffery Computer Language Support for Tertiary Students

Meaning is not a simple concept. It lies somewhere both inside and outside the system of language, somewhere among situation, context, register:

> The term 'meaning' will not be used; Meaning [sic] is regarded as a function of the description at all levels, so that reference to context in a grammatical statement implies the establishment of relations between grammatical and contextual meaning
>
> Halliday (1956: 179)

At the edges of the system, certainties about appropriacy become increasingly fugitive. Dictionary definitions list varieties of possible contexts, and consensuses about meaning. The Standard Englishes of various countries disagree about modals, subjunctives, negatives, lexical items, syntactic patterns, phonology, phonetic representation. But intelligibility is rarely prejudiced. The systems of formal Englishes have fuzzy edges, but context (function) almost invariably determines meaning. Meaning in a functional system is contingent on many factors.

The aim of any language communication course, support course or program is to enable students to acquire meaning from texts, lectures or notes, and to communicate meaning by writing or speaking.

> The semantic level in the linguistic system is, among other things, an interface between language and the realities of the outside world.
>
> Halliday and Hassan (1976: 305)

If language support courses and programs are to try to provide explanations for what they teach, and for the changes or corrections they make, the explanations will reach into levels above and below those under discussion. Explanations are digressions for students who have performed adequately, another argument for providing independent, asynchronous support. The paradoxical nature of tertiary language support courses is that they cannot maintain coherence and relevance while discursing around specific points in order to explain them; at the same time they cannot

function effectively without providing explanation. Paradoxes are usually resolved by lateral thinking; if a problem seems to be insoluble, the only possible solution will sidestep the problem. Software programs sidestep problems which courses cannot solve.

In relation to course *design* (not course *content*) the multifaceted weblike paradigm of systemic functional linguistics spans on one axis the range from text to 'reality', on another that from phoneme to genre, on another that from informal spoken registers to formal written registers, and on another that between synchronic and diachronic systems, while additionally allowing at every level and within every system, set and subset, explicatory links which cut across systems. The unranked list (which has no explanatory power) transforms into a dynamic evolving web — which the program but not the course can exploit.

Systemic functional linguistics creates a template for language support program design. It relates the thematics of the post-colonial, postmodern, global and practical 'reality', in which students function, to its esoteric linguistic analogue. By defining the loci of language use, it helps teachers and therefore students to focus on the registers which are relevant to their needs, and allows explanations to be accessed on other levels, in other paradigms. It removes stigma from poor language performance in formal academic English, because poor performance can be improved step by step: the words are not a qualitative judgment, but a quantitative one.

Formal academic English is one *register* of English, the one with which, by definition, support programs are concerned, because the written English used in education, business, the media and publishing is formal academic English. Halliday defines registers in relation to the social

functions of language. Formal academic English can be subdivided into the kinds of English (discourses) used in different academic contexts and situations — law, physics, chemistry, geography, literature and so on. Register is an abstract concept to describe the shared pool of resources which speakers or communities of speakers draw on in particular types of situation. Conversely, registers can be identified by their linguistic features:

> Types of linguistic situation differ from one another...in three respects: first, what is actually taking place; secondly, who is taking part; and thirdly, what part the language is playing. These three variables, taken together, determine the range within which meanings are selected and the forms which are used for their expression. In other words, they determine the 'register'.
>
> The notion of register is at once very simple and very powerful. It refers to the fact that the language we speak or write varies according to the type of situation.
>
> (Halliday 1978: 31-32).

In terms of this approach to language, 'errors' such as those listed from Nombuselo's essay are uses which are not *appropriate*, for various reasons, *in that context.*[9] Most fall into the category of 'unfit' uses of English (page 53 above).

Academic English is no individual's native language, so it should therefore not bring with it cultural or national baggage, though for creative writers and post-colonial theorists this is not the case.[10] The forms and functions of formal academic English have to be *learned both* by L1

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9 Within a register or discourse such as formal written academic English, mistakes can be made, where students do not communicate what they hope they are communicating. They may use inappropriate forms, or be unaware of spelling, grammar, syntactic or lexical conventions. Mistakes in this particular context do not *necessarily* constitute mistakes in contexts in other registers.

10 Post-colonial theorists feel that formal academic English brings European and Enlightenment preconceptions, endorses traditionalist canonicity, and is not a suitable form to reflect their very different experience.

and L2 users.[11] Spoken English in official situations is a spoken version of written formal English.

The ***core*** of language support therefore needs to impart the abilities to

- read formal academic English
- write formal academic English
- use or access the tools, strategies and resources which are needed to support it
- understand explanations for usages, constitute.

Other registers of English are not the concern of support programs. [12]

Also by definition, what speakers and writers do with their language in social situations and non-academic contexts is how the language in those situations 'is'; that is, it has evolved to be appropriate to the situations in which it is used (Halliday 1978: 34), and so is not a matter for intervention or prescription but for observation. Formal academic English is not a national variety, or the same as Standard English or British English, or The Queen's English. It is the register of English which has evolved to be used in academic or professional situations. Some formative features are the need for clarity, empirical cognitive practices, and the conservative expectations of academics, editors of scientific and literary academic journals and academic publishers who prefer certain conventions of terminology and format. Formal academic English

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11 'Although we both felt that there were significant differences between first- and second-language teaching of English, we felt their division was artificial. We felt that to prepare students adequately to teach in a unitary education system in South Africa, they must be able to teach English in the diversity of contexts which exist...For these reasons we decided to amalgamate our courses, but not to merge them.' Murray and van der Mescht 'Teaching English as L1 and L2', 1996: 259-260.

12 Students of English literature and of linguistics do require competence in discourse analysis.

can be interpreted as a strong cultural meme. Specific aspects have changed with fashion[13], and are still changing. Global communication changes may turn out to be fitter in the arena of *academic* language change (written) than changes inspired by post-colonial thinking about language and national identities.

To make coherent navigable and useful language support software, it is necessary to analyse quantitatively:

(1) what kind of language support is needed to improve the standard of response in mainstream courses for both first and second language students, and to provide the professional performance levels employers want
(2) what language support can realistically be provided
(3) how to assess the value of support.

Programs based on systemic linguistics offer a way of seeing language support which might encompass conflicting or divergent attitudes (Halliday 1975:42; Webster 2000:159) and which can separate levels of practice and explanation while providing access to information at all levels from situation to genre in a hyperlinked web. This enables switching between linguistic levels, and allows for asynchronous learning.

Systemic linguistics, as has been mentioned, is based on the evidence of the data of corpus

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13

Anyone who has studied manuscripts of English texts will be aware that grammar, syntax and spelling are conventions or contingencies, not necessary aspects of English. Prescriptive ('do this') and proscriptive ('do not do this') grammars were a corollary to 19th century public school classical education.The resulting attachment of 'right' and 'wrong' to language has had several unfortunate consequences, among which is the unhelpful notion that there is an ideal Language to which we all aspire, with greater or lesser accuracy, and whose rules can and should be learned; and that language in the playground should mimic that of the school-room pedant. For a full discussion see R. Mesthrie 1993 The Tenth English Academy Lecture in *The English Academy Review* 10: 134-146.

linguistics. Computer databases collect and classify examples of spoken and written English. Formal academic English is collectable and analysable — the registers of scientific journalism or of the English essay can be statistically accounted for. The lexical and grammatical usages of registers of English can be tagged and linked to situation, participants, contexts, etc. The capacity of databases is increasing, as is the power of hypertext markup programs which can be used to parse and classify information.[14] Collins' *Cobuild English Dictionary* [15] makes use of the principles of systemic functional linguistics and corpus linguistics to show how the meanings of words are defined by their use — the syntagmatic grammatical contexts in which they tend to appear. Training in lexicography in the tradition of Sir William Craigie and Professor A. J. Aitken teaches that the first category for dividing a word into its different 'senses' is functional — its correlations, the words which tend to appear in the immediate context; defining the 'meaning' is a function of this first *practical* discrimination. [Appendix 3 contains an example of the sense divisions of the word <out> (B. Jeffery 1974) in *A Dictionary of the Older Scottish Tongue*]

This practical point is important because it reflects the principle that meaning operates at all the levels in the system of choices which infiltrate the edifices of language, and therefore of English Studies as a whole. Software language support programs should not be linear in form, but should

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14

The International Corpus of English (ICE Project) is a major database for Englishes around the world. Many countries in which English is the or an official language participate: the South African component is based at The University of Port Elizabeth, Director C.D.Jeffery. Some projects have created spin-off projects; for example the South African English project is also interested in creating corpora for the other official languages.

15

Based on the Cobuild Corpus, at Birmingham University, directed by John Sinclair, a former colleague of M.A.K.Halliday. The British National Corpus is at Lancaster University.

be analogues of this interconnectedness. Language support courses might include *cognitive* units at one end of a continuum and *discursive conventions* at the other end, but as analogues of the book, they cannot escape a simplistic linear interpretation of language and of text:

> There is a concept of a text as a kind of super-sentence, something that is larger than a sentence but of the same nature. But this is to misrepresent the essential quality of a text. Obviously one cannot quarrel with the use of the term 'text' to refer to a string of sentences that realise a text; but it is important to stress that the sentences are, in fact, the realization of text rather than constituting the text itself. Text is a semantic concept.
>
> Halliday (1978: 135)

The 'errors' made in the work of the students analysed above can be grouped at one level up from the level of articulation in which they appear. On one axis there are problems in systems below and above the clause. On intersecting axes there are problems relating to context and situation, register, logic and cognition. A metaphor from music may explain the simultaneity of linguistic levels or systems:

> If one both *watches* and listens to an orchestra playing 'Peter and the Wolf', by Prokoviev, then at one and the same time, one can (1) *hear* music, which makes abstract or mathematical patterns, harmonic and thematic (2) *see* the strings, the bassoon and the flute playing the melodies which represent Peter, the grandfather and the little bird (3) *imagine* Peter, his grandfather hobbling along, and the little bird flying and singing (4) *situate* the story in rural, pastoral Russia, where wolves still lurk and huntsmen hunt, in a fairy tale with a happy ending and (5) *interpret* this Russia in Prokoviev's own time, 1930, where little Peter might be the trusting Russian peasant, and the wolf might be Stalin (and who might the duck, the bird and the grandfather represent...?)

Language support programs can dispose the linguistic equivalents of all of those systems of meaning formation in relation to each other in an interlinked web — just as when we listen to the music our brains sort all of this for us simultaneously, not one item after another. The systems which follow, defined as fields within which choices have to be made, participate in the formation of meaning in the linguistic registers of academic English:

form-substance-context
spoken-written
formal-informal
below-above the clause
paradigmatic-syntagmatic
synchronic-diachronic

Not all students need support in every system.

Computer programs let students move between levels as they choose. The hyperlink provides this access, facilitating access to the systematicity of language (Johnson 1997 Chapter 4 title). It encourages students to assess for themselves what they need to know. It allows students to move from the syntagmatic level of strings of English (grammar), to the paradigmatic level, in computer terms one level up, the level from which choices are made, and which provides the explanation for the appropriacy of those choices. It allows students to search for meaning by moving from the forms in the text to accounts or explanations in terms of function or situation, historically or synchronically.

The metaphor which best fits both systemic functional linguistics and programs for language support is that of genetic evolution, and the analogous notion of cultural evolution (memetics). Halliday himself (1976:3) uses Darwinian evolutionary metaphors to explain linguistic relationships and linguistic change. Genetic theory, and by analogy, memetic, has implications for understanding some of the culturally determined aspects of language and programs which support language. The concept of the appropriacy of linguistic usages to different registers corresponds to that of genetic fitness in specific environments. Both systems are constantly changing and adapting to new social or environmental challenges, in both obsolescence and

extinction are built in, and in both new forms spring up, are tested and survive or die according to their adaptation to their environments. Both systems are dynamic and interlock with other systems on many levels.

Students can move through the virtual space of the hyperlinked levels of a program, customising their routes to their own needs by making choices peculiar to each individual. They are both making individual choices and at the same time being guided by what the navigation map of the program allows them to do. The routes students choose to understand specific problems are different from the paths program designers use to structure the raw data.

When arranged in terms of paradigms rather than raw data, linguistic items on the lists of problems found in one discipline — say law, or history, or geography or physics or sociology — overlap with those on the lists for all the others in more ways than they differ, because they all share the features of academic written English (Hutchinson and Waters 1987: 31):

> Though the content of learning may vary there is no reason to suppose that the processes of learning should be any different for the ESP learner than for the general English learner. There is, in other words, no such thing as an ESP methodology, merely methodologies that have been applied in ESP classrooms, but could just as well have been used in the learning of any kind of English.
>
> Hutchinson and Waters (1987: 18-19)

They add: 'there is little justification for subject specific approaches to ESP [although].... learners will still demand them' (*Ib.* 166-7).

Yet strangely enough the memes of 'interactive' and 'integrated' learning — that thinking is passive (students must 'do' something in order to learn), and that each discipline should have

its own built-in support (Englishes for special purposes) — continue to hold the centre of the language support stage.[16] For further discussion, see Hutchinson and Waters (1987: 13); Chitravelu (1980); Orr (1996: 37-42); Van Zyl (1993:57). The notion of an integrated approach to language support courses founders on the twin obstacles of practicality and logic. Economic shortages problematise the duplication of facilities and materials which integrated support implies. And who will teach all the 'integrated' courses? Lecturers in law or physics know what they want but are not prepared or qualified to teach it, and lecturers in English find it difficult to provide more than one support course in addition to their own syllabuses. [17] Lecturers in English are in any case not always interested in, or qualified to deal with, 'language problems'. The word 'integrated' has been used recently in conflicting ways, to mean 'designed for a specific discipline' or 'designed to integrate the needs of all disciplines in one course'. Online however, the problem disappears, since learning is asynchronous and learners follow their own paths.

At the core of language support, the centre of the web, are the features of formal academic English which all students need. The shared core for all academic subjects intersects all levels,

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16

The word integrated is used in two conflicting senses: (1) that separate ESP courses should be specially tailored to integrate the special linguistic needs of different disciplines with the content materials of those disciplines or (2) that support for all the different disciplines should be integrated into one foundation or communication course. Most English departments in South Africa still agree with the first definition, because the liberalising principles of English for Special or Specific Purposes and the philosophy of systemic functional linguistics are only now, thirty years after Halliday McIntosh and Strevens published *The Linguistic Sciences and Language Teaching*, and twenty years after *Language as Social Semiotic*, becoming known in South Africa. But later developments have still to trickle up; economics, common sense, and linguistics, all suggest that the **second** is more appropriate.

17

Support for science students is discussed in Appendices 4 (examples) and 9 (theory).

from phonology and spelling through cognitive understanding and the resources and strategies needed to maintain and enhance skills, to register, discourse, text and genre. Some of the commonalities belong to systems which *can* be encompassed in support courses: for example the systems of register or discourse in academic formal English. Other systems are too complex to be *part* of a support course: for example the systems of grammar and phonology. They respond to learning by immersion in the discourses of academic English, and to the provision of tools, strategies and methodologies.[18] In other words the core materials and processes can be applied to the discourses of specific disciplines.

There is general consensus that direct teaching using the metalanguages of linguistics is not successful, because then the discourse students are learning is that of linguistics, not that of their own disciplines (Park 1998: 133; Hutchinson and Waters 1987: 37). The distinction between the discourse needs of students and those of lecturers is central: 'the statement of what has to be learned' is different from the method the course designer or teacher decides to use to achieve what has to be learned ('how the course will be organised' and 'what materials will be used'). The teacher's syllabus is not that of the students, and what the teacher needs to know, and what students need to learn, are different (Hutchinson and Waters 1995:38). As will be discussed later, even the metaphors differ by which we may express what students have to learn and how designers design what they have to learn.

18

Tools include dictionaries, thesaurus, peer reading and group facilitation, the use of first language to teach second language, writing as a process, editing skills, search skills, referencing, using the library, and the use of word processing programs such as Microsoft Word as writing tools and *English for Everyone*, which was designed for this specific purpose. Students write better when using a computer; they notice their language when it is in print, and they use spellcheckers and grammar checkers. The ultimate tool is the computer language support program, which can encompass all the different systems within its overall plan.

From this chosen core, different disciplines may diverge to greater or lesser extent, by preferring different lexical features, or by foregrounding specific structures or syntactic features; that is, they select from the common pool of the register of formal English. The context of situation of a discipline is ultimately determined by the market the discipline serves. Courses in one field may need to foreground non-verbal communication, in another the ability to analyse and identify the steps of a process. Both needs are functions of different levels of the semiotic system of language. All students need all the skills to a greater or lesser extent. One core course can therefore be *adapted* to apply to any discipline.

Choice is 'stylistic foregrounding' (Halliday 1978:138). The discourse conventions which tertiary students need to master are part of the wider 'polyphony' of language where 'different melodies are kept going side by side' (Halliday 1978: 31). One task of language support is to identify the 'melodies' which are needed, and the 'chords' which make them up (*ib.* 31) — the specific registers of formal academic English.

Core skills can be *assessed* and *evaluated* by success in the different kinds of work which students are currently doing in their mainstream courses, in comparison with a control group (students of previous years or students without support).[19] For online language support, the control group is the group of students following a traditional support course. L2 students who use English may not have access to 'the wider polyphony' of English, but a tertiary level language support course does not require this — it requires them to learn to write professional English in the register of their specific subjects.

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19 Assessment as a topic in itself is discussed at the end of Chapter 5.

Systemic functional linguistics can help to make theory speak to practice. Theory occupies the transitional space between student practice and student remediation. It helps lecturers to see form in the list of mistakes students make, and so help students to align the form-substance-content properties of their work with those of formal academic English.

In the process of writing students will have to transfer skills which they acquire to the specific materials of their own work. It is worth stressing the difference between the pedagogies of early schooling and tertiary education. The memetic belief that skills cannot be transferred from handed-down metalinguistic information and applied in specific tasks is important at primary and junior school level, and figures largely in current writings about language acquisition; but at tertiary level the ability to transfer skills is the very essence of what tertiary level learning is about. Students, especially in the sciences, should be assumed to be capable of bringing their own tasks to the course or program, of diagnosing their need, and of finding help to enable them to complete the task. One aspect of language support involves showing students *how* to transfer or apply skills, and the ability to do so is the same as the third aspect of 'competence' required by the National Qualification Framework (page 57 above).

If students are not capable of transferring what they learn about academic English to what they need to do in their chosen disciplines, then remedial intervention *additional* to tertiary language support is necessary. Students who have difficulty with this kind of task may be misplaced in higher education or may have specific difficulties (which can be ironed out). There is no good argument for subjecting all tertiary students to the pedagogical practices of early schooling.

Students at this level are not 'acquiring' language or English, but 'enhancing' what they already acquired, within a specific institutional situation (Halliday 1978: 16-17). They are not making up some'deficit' in language ability. [20] As intelligent adults, they can already, in their home languages, handle complex concepts. At tertiary level they need what *all* L1 and L2 students need — to familiarise themselves with the specific new skills and forms which apply to their special subjects.

Two metaphors or thematic notions appear in educational linguistics to describe approaches to language enhancement. The 'nativist' (formalist) view suggests that learners have a uniquely human inbuilt and abstract 'blueprint of the structure of Language', with a capital L. The 'environmentalist' (functionalist) view centres language enhancement in the social situations in which language is encountered. Halliday (1978: 17) compares those competing approaches to the 'old controversy of nature and nurture, or heredity and environment', reflecting a fundamental difference over what language *is*.[21] The first view suggests that language is an abstraction (as in generative or formalist linguistics), the second that it is something that human beings *do* (as in systemic functional linguistics):

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20 For discussions of the ideas of deficit and development, acquisition and enhancement, in language see Halliday (1978: 102-107), where he draws on the teachings of Basil Bernstein, Joan Baratz and Frederick Williams.

21 For a lucid description in quite other terms of the difference between language as an abstract system and language as discursive events, see Foucault 'The Unities of Discourse' in Rivkin and Ryan (1998: 423) 'A language (*langue*) is still a system for possible statements, a finite body of rules that authorizes an infinite number of performances. The field of discursive events, on the other hand, is a grouping that is always finite and limited at any moment to the linguistic sequences that have been formulated...' As always, in attempting to quote from Foucault, one brutalises the text by stopping in the middle of so coherent a discussion.

> The nativist model reflects the philosophical-logical strand in the history of thinking about language, with its sharp distinction between the ideal and the real (which Chomsky calls 'competence' and 'performance') and its view of language as *rules* — essentially rules of syntax. The environmentalist represents the ethnographic tradition...which defines what is grammatical as, by and large, what is acceptable, and sees language as *resource* — resource for meaning, with meaning defined as function. To this extent the two interpretations are complementary rather than contradictory.
>
> Halliday (1978: 17)

The 'environmentalist' understanding of language as a resource fits programs for language support which focus upon the *appropriacy* of various registers, techniques and formats for specific academic purposes, and the development of abilities to use them successfully in the social contexts (tertiary education, professional employment) to which they are appropriate. This approach makes Chomsky's distinction between *performance* and *competence* unnecessary (discussed in Chapter 2: 56-7), and the repeated claim for a distinction between competence and performance obfuscatory. As Penrose says (1997: 139), just because something is not *yet* fully explicable, it does not follow that it is therefore 'a mystery'.

The two broad approaches to the philosophical understanding of what language is, how language works and how meaning is acquired, translate into two pedagogical approaches to how children or students learn: [22]

22

Throughout the literature of second language development there are consistent tendencies to conflate the paradigms of spoken language with those of written, and to conflate the pedagogical needs of children with those of tertiary students, and to confuse the very different needs of speakers of English as a Second Language, bilingual English speakers, learners of English as a Foreign language, and writers of English for Special or Academic Purposes of whatever group. All of those need to be disentangled and treated separately, and the last group, the writers of ESP, need to focus upon goal-directed strategies rather than origin directed attentions.

> Learnability theories...take a nativist approach: language structure is traced to a biologically prepared state internal to the learner. Universal grammar is a set of specifications on the structure of language that is designed to fit within a learnability theory...Learnability theory assumes that there is a pre-programmed acquisition device that is prepared to receive and uncover the structure of language through minimal output.
>
> Bialystok (1994: 124-5)

Many linguists accept learnability models. Jean Aitchison writes for example that as children grow, a biological mechanism for language acquisition 'kicks in' :

> Children ...instinctively know in advance what languages are like. As in a spider's web, the outline is pre-programmed, and the network is built up in a pre-ordained sequence....Language has a biologically organised schedule. Children everywhere follow a similar pattern.
>
> Aitchison (1997: 42)

and

> [The] particular sequence of events is typical of biologically scheduled behaviour, as pointed out by Eric Lenneberg...Language is an example of maturationally controlled behaviour ...which is pre-programmed to emerge at a particular stage in an individual's life.
>
> (*Ib.* 45-6)

The word *pre-programmed* implies that children's capacity to learn is pre-determined, in some undefined way by an undefined agency. Experiments in creating robots which can learn from experience suggest however that trial-and-error, not fore-seen design builds step by step the blueprint for success (Gerrans 1999: 27 Aug.).

> The outlines of the language web are therefore pre-ordained. Acquiring language therefore involves weaving in the network details of one's own native tongue, with particular portions scheduled to be filled in at particular ages... Chomsky has suggested that children might be innately endowed with advance information on the main ways in which languages can vary...
>
> Aitchison (1997: 50)

The pre-programmed linguistic acquisition device corresponds to Chomsky's *principles*, and the target grammar which emerges through the learning process corresponds to his *parameters* — this is an almost Romantic theory of childhood learning.

On the other hand:

> Connectionist theories...take an empiricist approach to acquisition: language structure is determined by the linguistic environment that exists outside the learner.
>
> Bialystok (1994: 124)

In a learnability framework, language use diverges progressively from, and tries to reconform to, an ideal model. In a connectionist framework, language use selects from a shared bank of options, situation and context determining the choices that are made.

This environmental approach accepts that human beings are genetically similar, and that our social behaviours, including language, have evolved in family groups where mother-child relationships differ little from place to place or through time. Because ultimately they are limited by the physics of the possible, the universals of human cognition cut across the differentiating forces of nation, race or culture.[23] Susan Blackmore's account (a development of chapter 13 of Richard Dawkins's *The Selfish Gene*) of the co-evolution of language and human brain capacity is convincing.[24]

Connectionist theories are attractive in the context of creating language support programs, because they share the same bank of explanatory metaphors. In describing one particular

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[23] The common genetic origin and shared DNA of all human beings would seem to suggest that environment plays the largest part in cultural difference. Support programs have the power to reinforce and entrench difference, or they can respect difference by confining their effort to the contexts of the language of the disciplines involved. Language use outside the classroom or workplace is not their concern. This point has repercussions for the kinds of linguistic interventions which are the proper concerns of teachers of language support courses.

[24] Blackmore (1999) provides a controversial evolutionary explanation for both brain size and language: 'The Big Brain' (66-81) and 'The origins of Language'(81-100).

connectionist theory [the competition model], Bialystok for example says:

> It is based on associations perceived in linguistic input. It is more functionalist than other models, in that it also depends on competitions between form-function mappings in the underlying networks. As the competitions are resolved, a network emerges that strives for the most parsimonious and efficient solution to the form-function problem.
>
> Bialystok (1994: 124)

The two-dimensional becomes three-dimensional: a dynamic network which works by trial and error, competition and adaptation, not by attempts to retrieve a perfect model.

The idea of a core language support course or program for all students is more in tune with connectionist language development theories and functional linguistics, than with learnability theories and generative grammar. In an academic learning situation and in the contexts of different kinds of academic writing, connectionist theories enable teachers and students to agree on the contingencies of English usage in particular contexts, and to concentrate on examples of what happens to be done at the present time, in the present place and under the present conditions, rather than on explanations of rightness or error based upon the authority of precedent or the grammar book. Synchronic study of the register of a particular discipline as it is used will then be enough. Diachronic studies of the evolution of usages can be made available for their explanatory power — equivalent to the history of science as opposed to 'doing' science. Software programs like E4E can include historical information, even though it may never be accessed by most students.

Connectionist language acquisition models integrate with changing webs of structured and organised learning:

> they have their origin in the computer modelling of behaviour and are almost always implemented as computer programs. They are built up out of simple processing units...Connectionist models can carry out a wide variety of tasks, not just language

processing

Garnham (1994: 101)

Other names for connectionist models are 'parallel distributed processing' and 'neural network modelling'. 'In one interpretation of this approach, linguistic rules are epiphenomena' (*Ib.* 101).

> Connectionist models can carry out a wide variety of tasks, not just language processing. The trick is to come up with a scheme for coding the input as a set of activation levels of the input units, and another scheme for interpreting activation in the output units as the result of processing the input. The network then has to be 'set up'...so that with the same configuration of the network, a wide variety of inputs can be transformed into the appropriate outputs.
>
> *Ib.* (101-2)

1994 was the jurassic of software evolution. But Garnham's 'input units, hidden units, and output units' adequately describe the principle behind language software programs. The input units are 'what the teacher knows'. The hidden units are the complexities of the program algorithm (the hyperlink or navigation view of *English for Everyone*, for example).[25] The output units are the interface between program and user. Once more a distinction is made between how courses and programs are designed, and how they are used.

On the other hand, according to Garnham:

> Connectionist models are unable to represent the systematicity of mental representations. For example, if a person can understand the sentence 'John loves Mary', they will be able to understand the sentence 'Mary loves John'. A connectionist model in which this link is broken is just as easy to set up as one in which it holds. Related to this problem is the suspicion that connectionist models are unable to learn highly structured tasks. In language, structure and systematicity tend to go hand in hand, so connectionist machines may be unable to carry out many of the complex processes which comprise language understanding.
>
> *Ib.*(104)

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25 See Appendix 2

Recent research in artificial intelligence suggests that machines can be made to appear to understand and respond to language: the question is what is meant by understanding. In science, and in systemic functional linguistics, *understanding* seems to mean *doing successfully*, following step by step the processes of a Popperian (1978) falsification theory.[26] Success means that the meme in question transmits itself without ambiguity. 'John loves Mary' is *not at all* the same as 'Mary loves John' as any married couple will know. Generative grammar and learnability theory assume unconsciously a Platonic 'meaning' in the sense that there is a vision of an imagined form which the specific item represents. Garnham then describes the strength of connectionist theory — that it allows for continuous reassessment of situations and solutions:

> The notion of a local minimum — a non-optimal solution to a problem for which all 'neighbouring' solutions are worse.
>
> Garnham (1994: 105)

From a dynamic model of language as an evolving, problem solving, responding, nexus, it is a short step to the current metaphors of mind and language which draw parallels between brains and computers.

> The connectionist approach...assumes that linguistic symbols and rules are not represented directly in the brain, but are categories invented to describe the complex structure of the 'fall-out' from processes which are themselves much simpler and more basic. These fundamental processes are conceived of in terms of neural networks, where the suggestion is that these resemble, or at least symbolise, what is known about the physical behaviour of the brain. These neural networks have to be modelled on computers since there are far too many simple operations happening at once for a human being to be able to calculate them....From the point of view of modelling human learning and human understanding, the connectionist approach has many attractive features...[One of those features is] the explicit appeal to **context** at all levels of language teaching, not only because different levels of skills appear to need to be integrated during language comprehension, but also because the learner can use information from one level to

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26 K.R.Popper (1979) It is interesting that the competing ideologies which have influenced English for Special Purposes have all evolved from ideas expressed in the years 1976-9: Ngugi, Achebe, Halliday, Bruner, Popper, Dawkins all put pen to paper in those years.

> compensate for lack of competence at another.
>
> Brown *et al.* (1994: 97-98)

The empirical, evolutionary approach to language traced from Halliday predicts even the most recent models of how human minds work (see for example Penrose 1997: *passim*). It removes the notion of a necessary relationship between Language and Culture, because language (in academic situations) corresponds to, and is constantly re-made by, what is being done with it. It does not come clothed in a ready-made 'Meaning'.

> Since language evolves out of the impact between the material and conscious modes of being, it follows that as material conditions change, the forms given by language to consciousness also change.
>
> Halliday (1992: 65)

Language support in English is qualitatively the same as language support in French, Xhosa or Chinese, its meaning being determined by situation, form and context. For most academic disciplines, situation, form and context overlap to such an extent that a core English language support course can serve all; for practical and economic reasons this is the rational approach. The fact that the support is in English should have no necessary bearing on the cultural impact of the course; its meanings are constantly remade and redefined in many systems within systems, the edges of which are fuzzy until speakers and writers make them precise, for themselves.

Computer support, finally, can enhance and complement functionalist language support. If, linguistically, disciplines share more than they differ, it is possible to create a core course which can be applied to materials specifically related to the disciplines which want support. Computer programs can be shown to assist in this process. The value of computer programs is that they do not have to espouse any one approach or theme or ideology: one program can contain many

choices or routes, and conflicting approaches, which the linear nature of courses or syllabuses cannot cope with.

Some interim conclusions

Systemic functional linguistics can provide the first steps towards the core of language support programs. One can begin to *visualise* language support, and the outcomes of language support as one and the same thing. The forms which language support needs to provide, and the content which students need to master, are also two aspects of the same thing. Teachers need to think three-dimensionally, in terms of core operations, and, at one level up, of explanations for or discussion of the operations. Language support should be dynamic, creative, three-dimensional and provide the opportunity to master and understand professional skills.

The core will be

- by definition the primary set of materials in a support course, with applications which are subsets. Some subsets foreground certain features
- from the learners' point of view composed of four major categories: reading, writing, general skills, and advanced skills
- from the teachers' point of view concerned with form, substance and context
- designed to be used with and applied to the materials of different disciplines, or run in tandem with short subject-specific courses
- made up of what tertiary students need to know about or do with the language of their special subjects
- able to provide what students, as professionals, will need in their chosen careers
- not so much English for Special Purposes, or English for Academic Purposes, or Communication, but English for professional purposes.

Computer support programs can provide:

- for students of all disciplines by sorting information into core information required by all (the systems which support academic written English), from which paths may diverge in many (guided) directions, and to which subsidiary loops may be added
- navigation through learning support programs by guided choice (students do not follow random routes)
- a core of academic English for students which will include reading, writing, practical and general skills; those categories will subdivide in every direction to create interlinked systems and subsystems
- access to all levels of language support, including metalanguage, in a structured way.
- flexibility, and asynchronicity
- knowledge and information, as a resource.

An example of methodology for part one of an online course:

As the core from which to begin online language support we chose:

- Reading
- Writing
- General Skills
- Advanced Skills

Note that the method *combines* content (subject, genre) with wordprocessing (form) at one and the same time: the one is the medium for the other. Paper and pen is no longer a professional way to write. Students should have access to a wordprocessing program, library resources, and online resources, and learn to use them *as they proceed.*

If *Writing* is chosen for the beginning point of a course, then what kind of writing? Students need not work alone — groups of between 2 and 4 members are successful. Assign aspects of the task to group members. If for example a *report* is expected from student writers, then they need to learn to:

- use a **wordprocessor** (if they have not already done so): if they have not done so, the content materials for learning will be the task in hand
- create a **folder**, name files, save to a disk, plan lab access if need be
- **plan** their work, based on the **topic** [E4E explains planning methods, using key words to determine the appropriate kind of plan]
- do **research**, make **notes**
- **move** from generic program to support software and back
- gather **data**
- make **tables**, record and organise data
- make **bulleted** or numbered **lists**
- learn the format of a **report**
- decide on **headings**
- plan **sections**
- take turns to **type** and save, **edit** and **proofread**, **peer** read
- **print**

Research includes both content research and method research: all of the bold words above are

part of the learning process of writing a report. Both content and method can be provided online while students are writing, if they use E4E combined with a wordprocessing program.

Systemically structured software like E4E can provide explanation at every step of each kind of writing process; students can click on links to move one level up to the explanation for the level below. For example, in the list of *Parts of a Report*, if students click on *Abstract*, they will find *How to write an Abstract*. They can then proceed back to the Report, or they can proceed to further explanation: *What kind of English to use*: *What is formal English*: *What is a complete sentence*: *Grammar problems*...and so on. They can reach *Examples*, at any level, from *A Complete Report*, to parts of reports, to *Grammar* or *Syntax*, and they can reach *Practice Exercises* for any topic. At any stage, they can return to the report they are writing, and carry on. In this way, content and method and online practice are mutually supportive.

CHAPTER 4

A survey of models for language support courses and software programs

New technology transforms the way we create and communicate
Steven Johnson 1997 *Interface Culture* Title.

There are many models for, and examples of, language support courses, and there are many academic web sites on the Internet on which language materials are posted. There are now, also, two models for software programs, the only systemic one being E4E. This chapter evaluates the body of current courses, online materials and programs, against the linguistic, pedagogic and institutional parameters already discussed. Specific courses, online materials and web sites are listed and discussed in Appendices 6 and 7.

Because language problems have been identified as a major factor in failure rates, universities in South Africa are in haste to transform their curricula, and also in haste to provide language support. One consequence is that the certain voice, the available option, the ready opinion, the impromptu department workshop is sometimes clutched like a proverbial straw to save the day. Groups and individuals are being tasked, in conflict with one another, and even within the same institutions, to investigate language support models; and models for new courses are being institutionalised on the basis of perceptions of language need or memetic assumptions which may or may not be useful.

Current options, in print and on line, can be evaluated according to whether they conform with preferred paradigms and / or themes, produce desirable outcomes, or result in improved

performance. Chapter 3 has shown that to be effective, support courses or online programs should:

- be constructed systemically round core needs
- focus on formal academic English
- serve market-oriented needs
- provide tools, resources, strategies and explanations
- take account of current perceptions and institutional dynamics
- make use of modern multimedia resources
- allow independent progress (asynchronous learning)

and they should not

- primarily teach language or linguistics or communication theory
- be heterogeneous lists of items for remediation, or exercises
- teach formats which are no longer relevant
- be created around uninterrogated or naïve perceptions about 'good English' or the social role of support courses
- be enforced, or taught by conscripted lecturers
- target specific groups of students

In the hands of a good teacher unpromising material (a list of things to be done) can kindle sparks, and in the hands of a less able teacher good materials (paradigmatically structured) can cast a smoke screen and die. Courses which are accepted by the National Qualifications Authority are, debatably, to be considered to be objectively viable and deliverable by any teacher.[1] They will be legally endorsed and therefore inheritable, despite the truth that 'teaching can never be merely the 'delivery' of someone else's 'given' curriculum' (Woolnough 1992: ix):

> [Teaching] is essentially a personal and professional business in which lively, thinking, enthusiastic teachers continue to analyse their own activities and mediate the curriculum framework to their students. If teachers ever cease to be critical of what they are doing, then their teaching, and their students' learning, will become sterile.
>
> (Ib.)

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1 For a useful discussion of SAQA see Homer (1998: 121-128).

Good teaching depends on the teacher, but this is not an argument for allowing teachers to teach with minimal facilities and on a minuscule budget or for forcing them to teach poorly conceptualised courses, while administrations have money for less worthy purposes. If courses and programs *must* be fossilised as though they were 'divine writ' (Hutchinson and Waters 1987: 94), then they should have a sound theoretical linguistic and pedagogic base, which has been evaluated, tested, and shown to be successful. They should be templates, not lists of things to do. They should do more than conform with currently approved memes and themes. There *is* a bottom line for all English language support, namely the core of methods and information pertaining to the *paradigm* of academic English which all students need in order to perform successfully in tertiary education and in the workplace. Support courses provide appropriate toolkits.

Outcomes-based definitions frame what language support courses should do. Wendy Kilfoil cites 'essential' and 'specific' outcomes from 'Understanding the National Qualifications Framework' (Morris 1996:4):

Essential	General things you can do and understand which matter in all areas of learning, like communication and problem-solving. These are sometimes known as generic competencies or fundamental abilities.
Specific	Special skills, knowledge and understanding in a particular context, like job or school subject or broader areas of experience, like community development.

Kilfoil (1998: 49)

Differences between the parameters for course design set by the NQF, and those set by the UNISA Study Guide for Communication for Science Students to which Kilfoil has applied them are significant. Here 'communication' is a generic 'competency' or fundamental ability, to be distinguished from 'specific skills' in 'particular contexts'. It should be clear by this point that

for a systemic functional linguist this distinction cannot be meaningful. In the NQF paradigm, 'essential skills' like 'communication' and 'problem-solving' are deliberately abstract 'competences', while 'specific skills' are particular. Abstraction may be thought to define concepts on a 'higher level' in some philosophical contexts, but not in a functional, materialist system where the realms beyond the functional are not quantifiable or definable and therefore not discussable. Those abstract 'competences' are not on a higher level in an organigram of the sets and subsets of support course planning. Nor can one be sure that they will be outcomes since they can only be measured by analogy from their practical realisations. The theoretical side of language is an input to the system, not an outcome.

In a performance-oriented system, abstractions are nothing more than the sum of as many instances as possible, and so a distinction between kinds of abilities is fictive. It may rather be the ability to cross boundaries among as many kinds of skills as possible which qualifies intelligent and educated students to be high achievers. The core skills which students need to acquire are not abstract or general proofs of 'competence' but specific and applied demonstrations of reliable performance in more than one area. Communication has to communicate *something*, and problem-solving has to solve *something*. Communicative and problem-solving abilities may be results (outcomes) of a learning process. But they are probably not even then general, or universally applicable abilities.

A good communicator in media studies or academic development may not be seen as such by a physics lecturer, and a good science student may be taught the 'wrong' sort of 'tricks' in communication lectures — 'paragraphs with topic sentences' are out of line for the physics

student or the computer scientist. But in truth *all* students need the resources, strategies and skills which form the core of language support in all the different systems by which language produces meaning.

The NQF Report includes 'language' as one of a list of eight learning areas, as though language support were qualitatively the same as other 'learning areas' and could be taught as a subject, and evaluated as an outcome, rather than as the medium through which the others are expressed. The current haste to transform and standardise conceals the lessons of language support history already discussed.

New language support courses, intranet materials and software programs all need to be conceived in the context of what has already been done. Although software programs for language support, rather than courses, are the subject of this work, the kinds of courses which lecturers use and publishers print predict what is expected of the 'right' software program. The institutional aspect of language support is fraught with conflicting memetic theories and practices as departments, students and managements speak past one another. Because courses represent student numbers, which represent funding, which represents viability, memetic popularity may be more important than theoretical consistency and practical application. Courses and programs therefore compete as though they were commodities on the open market and in the academic market-place.[2] This point becomes important when lecturers produce text books and software programs which are then commodities. Value, whether monetary or intellectual, is estimated, Marx says, 'in a

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2 As with commodities, a more modern approach would be to complement, share the niche or market, rather than compete and try to 'kill' the opposition. Complementary relationships are advantageous to both sides.

fetishistic manner' (1867 *Capital* Vol. 1: 45), and not according to the 'physical properties of the commodities'. Applying this perception to language support, courses and therefore programs are valued for memetic reasons. Finally, the way to evaluate a software program should in fact be very different from the way to evaluate a course; it is a new medium with new methods and new goals. At the same time, the *paradigmatic* power of systemic functional linguistics should be stable.

Marx (1867:41) said 'when ideas fail, a word will help you out at the right moment'. Ideas fail in the absence of paradigms or structure. Some memetic words used to evaluate language support courses ('interactive', 'authentic', 'integrated', 'discourse-based'...) are now transferred to software. Few approaches to course design are ideologically neutral. It should be possible to deconstruct the themes and paradigms of available courses and software programs.

Lecturers tasked with providing language support need to define their own ideologies and agendas, those of the institution, against the core of what students as potential professionals need to know, do or understand. The functions of language and of language support are circumscribed and defined by the realities of the world in which students and teachers *live and work*, not by our attitude to it. The fact, for example, that in the past students of one race or class have been educationally disadvantaged does not affect the *outcomes* which a course needs to achieve, the core of skills and knowledge which have to be developed. There may be additional desirable aims, such as increasing the self-esteem of L2 students, or making up for inadequate second level education. But the primary aim is the goal — not where the students are coming from, but where they are going to. Any language support course or program needs to be capable of

providing *real* assistance for the L2 student who wrote the essay on 'Snake', and for her peers.

Wendy Kilfoil notes

> While OBE moves away from a focus on the rote learning of content, it would be a misinterpretation of such education to say that content is not important. It would be sheer lunacy to construct contentless syllabuses, as we cannot teach skills in a conceptual vacuum.
>
> Kilfoil (1998: 49)

Paradoxically, and particularly in relation to the weblike structure of support software, the core and the goal, content and the ability to express or realise it, need not be imagined as at separate ends of a line. In a functionalist way of 'looking', the one is the realisation of the other.

The centrality of the professional needs of students acts as a guide through the diffuse demands represented by syllabuses. There are many syllabus types for language support courses and textbooks. Types are thematic; choices of syllabus seem to be made according to type rather to the informing paradigm (with applied thematics).

Syllabuses may be ways (Hutchinson and Waters 1987: 84) of :

- breaking down the complexities of language into manageable units
- satisfying sponsors and students
- making route maps towards a goal, defined as outcomes
- making implicit statements of views on the nature of language and learning
- collecting materials.
- equalling standards and levelling playing fields
- setting standards, assessing students, evaluating courses for sponsors, promotions committees, transformation

and they may :

- have hidden agendas — cosmetic courses for sponsors or transformation should not become the basis for selection of materials

B. Jeffery Computer Language Support for Tertiary Students

- not guarantee that what is stated *will* be learnt
- not take account of intangibles — 'emotions, personalities, subjective views, motivations'

The relationship between syllabus-type and final learning outcome is contingent on external factors, even when the syllabus is designed with specified outcomes in mind. In South Africa the principles of outcomes-based education have so far been formulated without IT vision, despite the growing move towards computer language support and the obvious centring of the digital and global world. In most cases, even where the computer forms part of the new system the methodology and mind set is linear and course-based, a direct transfer of the methods of the old medium to the new.

Examples and analyses of current language support approaches (courses, syllabuses, online materials and online discussions), listed and discussed in full in Appendices 6 (traditional) and 7 (online), image the 21st century South African language support *Zeitgeist* which informs, consciously or not, the choices we make. They are a synchronic cross-section of the 2001 moment, but they are also the product of the diachronic history of language support described in Chapter 2. Their masquerade as a list of equally viable choices is illusory.

But, while from the list, only one course can be chosen, on line one can make use of many and competing kinds of language support. A software program can contain many paths, and one can surf from program to program, or site to site. The potential for diversity in online language support makes it attractive. Cooperation replaces competition. Chapter 5 will show how *English for Everyone* was made and how it resists, and also how it conforms with, expectations brought to bear on it from language support course preconceptions.

B. Jeffery Computer Language Support for Tertiary Students

The tables of contents for courses and textbooks (Appendix 6) are analogues for the kind of approach to language support each reveals. There is no obvious historical sequence to the ideologies of support course materials in print; older approaches, and even approaches which have been elsewhere superceded, may reappear. Few syllabuses are based on functional linguistics, and few explicitly address lecturers *as well as, and differently from,* learners. Some even confuse the discourse of pedagogics with that of learners, or address indiscriminately as target audience in one sentence the lecturer, and in the next, the student. (Examples of all of those are in Appendix 6).

When comparing courses with their online equivalents or replacements, or innovation with control group, one has to take into account the '*what's the difference*' factor :

> I've got two pieces of bad news about the experimental English composition course where students used computer conferencing. The first bad news is that, over the course of the semester, the experimental group showed no progress in their ability to compose an essay. The second piece of bad news is that the control group, taught by traditional methods, showed no progress either.
>
> Ehrmann (1995: 20)

Personal experience suggests that one of the values of online learning is that it is a powerful tool which brings with it by default new understanding, and that it forces new paradigms for teaching and learning and for the process of thinking about language support. 'Software beats hardware' (Mitchell 1995: 48) for many reasons, not least of which is simply 'because it is there'.

What then are the advantages? First, although software programs may seem to be eclectic in approach, they must also of necessity be designed as coherent entities. To make a program using

hyperlinks, you need to think clearly and analytically, or the program will not be navigable. The technology of the hyperlink lends itself to logic and clarity, and to systematicity. The computer interface does not respond well to verbosity, or to confused screen design. Wordiness is probably the biggest single factor in the obfuscation of learning in traditional formats.

Acquiring computer skills is attractive to ESL students. Language support programs can enhance literacy by default (Walton and Clark 2000) while providing new, marketable skills which students want. Students who are already computer literate also benefit because, computer literacy being the indicator of a more privileged all-round education, they are not constrained to sit through a year-long linear foundation course, but are still provided with the new skill(s) they need, including the acquisition of the register of academic English. Software programs are large enough to provide scope for students at varying stages of development and with varying needs. Online support is the simplest route to asynchronous learning. In any case, the attention demanded by generic word-processing programs in comparison with pen and paper in effect produces better English (one finding of the 'Writing with Computers' Project).

Online support encourages holistic learning, because explanatory levels are integrated into the whole system. The design constraints of a new medium and a new approach to language support encourages us to rethink the old lists of disarticulated memes which had to be included in language enhancement courses. *English for Everyone* is, so far, however, the only program which provides a complete language support system for tertiary students. There are programs and web sites which give grammar practice, or list grammar rules, or discuss writing techniques and processes; there are intranets in some institutions where language materials can be posted;

but there is no other purpose-designed software program (as yet) which tries to create a navigable web which allows access to 'English', the academic discipline as a whole. The closest approach is probably *The Oxford Advanced Learners Dictionary on CDRom*, which is a magnificent systemically developed learning tool. English as a discipline is not usually conceived of holistically, and English for second language support for other disciplines is not usually considered in relationship to the other parts of academic English.

Because support software introduces students to an Internet browser, there is a secondary advantage in the accompanying access to the wide range of materials, discussions, experience and information freely offered round the virtual world by learners and teachers. The name e-learning is replacing the previous generation CALL (Computer Assisted Language Learning). The ethos and methods are different. E-learning is variously perceived as a gimmick, as a way of creating a niche in an uncertain academic world, as the new discriminator, or as the route to the future. As a pedagogic practice it re-invents itself so rapidly that by the time words are written about it the topography has changed. The changes are both spatial and conceptual, despite preconceptions brought to programs from the linear ideology and from the thematics of the book and of the course.

Language support online may therefore be in the form of materials posted on web sites on the World Wide Web, on Intranets, or created (more recently) on CD and CDRom. The current memetic requirements of interactive learning, integration with specific discourses and disciplines, and online assessment may be met and problems solved, in a variety of ways, which the following two chapters explore.

Appendix 7 lists and assesses various language support web sites, with web discussions of various aspects of online language support. This list is useful for many reasons: it takes a long time for a beginner to find sites, and even longer to use and assess them. Most sites provide more links than one has time to explore, so it is easy to lose one's way in the virtual wilderness. It is possible to grasp an overview of what is and is not being done and what can and cannot be done at this point (March 2001). One needs to note at the same time how it is being done — a new medium brings a new message:

> The link is the first significant new form of punctuation to emerge in centuries...Hypertext, in fact, suggests a whole new grammar of possibilities, a new way of writing.
>
> Johnson (1997: 111)

In addition to the textual dimension of the shift from print to digital medium, the vision of what the World Wide Web is, and of ways of representing virtual spaces(s), is evolving, creating a new theoretical field. The change from analogue to digital medium is qualitatively similar to changing ways of representing 'reality' in art — symbolist, 'realist', pointillist, Fauvist, impressionist, graphic, and so on, where the medium is a technology which brings with it a way of seeing, and so of interpreting, the world.[3] In this sense, software programs differ qualitatively from print or course as etchings differ from sculpture, and as both differ from the 'reality' they represent. (In a materialist context, the software language support program does not of course 'represent' but is part of the continuum of 'reality').

So at one and the same time, computer language support introduces

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[3] For interest: both David Lodge (2001) and Salman Rushdie (2001) have in their latest novels tried to capture the essence of the change from analogue to digital world.

- for the makers and teachers of language support, the potential for a new systemic vision of what it is, and how it works, in meta-systemic and analogical terms
- for students, a practical means of understanding better the world in which they will function as professionals, by enabling them to understand the discourses of their academic disciplines through the medium in which they will work.

The enormity of the task of software design, and the stricture that programs have to *work*, focuses program makers in a way that rarely affects course designers (where *ad-hoc*-ery can rule). Making programs is labour-intensive; navigation systems have to be both systemic and intuitively usable, as is explained in the next chapter.

Support software differs from courses in another, more problematic way. Software programs are *products* useful to the education or multimedia industries. In this view there is a conflict of interest between the goals of the software industry and those of the participants in the learning process. The fact that software programs are commodities may be thought to be detrimental. Noble (1998a, b and c: see Appendix 7 for a full account) draws attention to the fact that the Web is big business, and multimedia and hypermedia authoring is part of an industry which takes learning out of the hands of the teachers and places it in the business arena, where it can be manipulated by the ideologies of sponsors. One might however, having seen the track record of language interference in Africa in the 19th and 20th centuries, say 'so what's new?'.

Commercialisation may in fact perform a double role as quality control in a very competitive market: before the introduction of the SAQA framework, courses for language support were problematic because there was no standard against which they were evaluated. From the humanist point of view, courses which attract industrial sponsors or seem to fit the current memes of usefulness may appear to be privileged over the esoteric courses which, in the

humanities, have been the traditional stuff of scholarship — the medieval Latin lyric, Elizabethan emblematology, the Oxford Movement, the African novel, and so on. Internet scholarship intensifies the focus on cracks which already exist in the fabric of academia, fissures between élitism and marketability, humanities and sciences. (*Should* the 'value' of an arts degree be commercially quantifiable?) The World Wide Web however, does supply interstices, niches, where strange web sites and nodes for like-minded individualists survive, without endorsing any canonical environment. On the one hand, for most students education is no more (and no less) than a right, and provides the route to a job. In this view, students must be provided with the skills which computers deliver (and so the liberal dream of understanding, John Muir's 'life-long journey' of discovery, is institutionally irrelevant). On the other hand, the gate-keeping power of the institution to determine what is to be learned, and who shall be permitted to learn it, and who shall be deemed to have succeeded and who failed, has been undermined by the freedom of the WWW.

Members of the same Faculty Seminar of the University of Illinois in which Noble aired his suspicions of the world online (1999: discussion in Appendix 7) suggest that web design brings arts and sciences together as teams more closely than ever, because in this field each needs the skills of the other. Managing HTML files is not yet a general humanities skill. The theoretical component of web writing is one of the rare points where humanities and sciences, design and technology, converge, as C.P.Snow dreamed of. Change, as Huxley said, is constant. It need no more be for the worse than it is necessarily for the better.[4]

4

/Nature] is ever shaping new forms: what is, has never been; what has been, comes not again. Everything is new, and yet nought but the old...Incessant life, development, and movement are in her, but she advances not. She changes for ever and ever, and rests not a moment. Quietude

The humanist idea that learning is not about running *to* some goal, and not about trying to get there *faster* than someone else, in effect, and paradoxically, produced the ivory tower model of exclusivity and élitism, because only those who had leisure and income could afford to *explore* Knowledge, as opposed to going straight to a purpose-focussed career qualification. Now, the non-linear nature of programs allows a new formulation of the ideal of self-paced exploration and self-assessment. Each path may be goal-directed and specific, but at the same time students may be tempted, in ways which courses and textbooks do not encourage, to cultivate their personal gardens, as Voltaire advised (*Candide* 1759: Chapter 30). That need has not changed, just because the need for access to knowledge is both more urgent and more democratic.

Program makers, like course designers, can deconstruct and be aware of the motives and ideologies which inform their work, because the final shape of the program will image their motives and ideologies just as surely as courses do.

What is the difference between materials for computer language support on sites on the World Wide Web, and software programs on CD Rom? Web sites put information on the World Wide Web, which can be read using an Internet browser, or can be downloaded to disk and used (and changed — at the expense of the hyperlinks) off-line. In their active form, HTML (hypertext markup language) materials need to be read using an Internet browser (which comes with Windows 98 in any case). File extensions may be, for example, htm., html., pdf. (If pdf., — portable document file — read it using the Adobe Acrobat Reader). HTML files can also be read

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is inconceivable to her, and she has laid her curse upon rest. She is firm. Her steps are measured, her exceptions rare, her laws unchangeable. (Huxley 1869 at http://www.nature.com)

as normal text files, and can be printed out. But the hyperlinks disappear and the files become sequential, so of course the medium changes to text, and the structure enabled by Johnson's 'grammar of the hyperlink' (1997: 111) disappears.

Materials on CD and CDRom are more likely than those posted on language support web sites to be constructed in a systemically designed form, since they will be purchased to work as a complete course. The restricted space on networks forces most posted materials to be simply prose on line. Materials on the Web or on Intranets may be posted and replaced, by one or by many individuals, with or without systematicity, and can be 'surfed', and used either in conjunction with other web sites, or as the need arises. There are many sites and search engines from which one can link one's own web site to similar sites.

Copyright and intellectual property rights laws apply to web sites, CDs and to CDRoms. Site licenses for specified numbers of users are bought from publishers. Online materials of all kinds become part of the World Wide Web, joining a vast network of sites devoted to language and language support. But the ownership of materials which are posted on the web is not clearly defined. It seems to be generally accepted that they are common property for the purpose of teaching and learning, but that copyright law applies to reproduction, and the laws governing plagiarism certainly apply online as in print.

Web sites for language support do many different things. Some are for teachers, some for students, some unspecified. They may be

- discussion sites
- institutional sites which provide materials and / or discussion

- institutional sites which restrict access to course materials for logged-on students using an intranet, and which sometimes add materials and discussion for general use.
- conference sites, and their online Proceedings
- sites made by individuals
- generic support sites
- demonstration sites for CD and CD Roms, for books and publishers and online journals
- linguistic theory sites and sites for teachers
- commercial sites, including those of publishers
- sites which act as portals to second language learning of all kinds

There are international discussion groups for teachers and lecturers on different aspects of online learning — how to do it as well as what to include; examples are the Canadian site *The Node Online* at URL http://node.on.ca, the *H-Net MultiMedia* list, and the Australian *Unilearn* list. There are sites where papers and articles can be downloaded. There are bibliographies of computer assisted learning texts and websites, and there are sites which generously gather related sites to make access easy (called vortals = vertical portals). There are sites hosted by publishers of tertiary language support text books, dictionaries such as the Oxford English Dictionary, and academic journals which provide learning and discussion online; some provide access to abstracts and / or articles in their journals. Then there are the support sites of different authoring or web writing packages. Microsoft offers tuition on the use of MSWord as a writing support program. Some sites combine several functions. All of those sites and many more provide a wealth of the most up-to-date information about computer language support across a wide spectrum of interests and approaches, and in terms of content, program design and use.

No one web site provides a complete language support resource for students, or for lecturers, because space does not permit it, and access times and cost would both be prohibitive. Graphics restrict access because of their size.

CDRoms and CDs are used in institutions by buying from the publisher site licenses which provide the right to use the disk for 1-10, or 10-20, or 20- student users. Language support programs and resources on CDRom or CD are potentially complete resources. They can be created as a coherent whole, to perform a defined job for a defined market. That potential has not been realised — yet. CDRom programs are usually made by teams. They can be published by traditional publishers just like books, or by e-publishers, a new breed. Because they can be installed on a pc or an intranet or server, they do not have the restrictions on size that apply to web sites, and are instantly accessible. There are only two examples of English tertiary language support CDs, a small Australian one from the University of New England, called tUNEup (very limited), and *English for Everyone.*

Some web sites are useful, some cosmetic; some are all interface with no substance, or 'under construction' or out of date. It is a good plan to bookmark the most useful ones ('Add to favourites' if using Internet Explorer), explore them, and download to disk *only* the files one might wish to use. Articles or information can then be opened later using the browser, a saving of time and money. They can be adapted to fit specific needs, bearing in mind that they are no more than exercises and information online. Some sites which contain graphics or long articles take too long to download, and 'time out' before they are completed. South Africans should try again very early in the morning: South Africa has a band-width problem. [5] This means in effect

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Bandwith is a measure of the available range of frequencies . The greater the bandwidth, the greater the amount of information that can pass through the circuit. There are programs which speed up downloading: Gozilla.com

that down-loading, and access, are relatively slow. [6]

Different countries exhibit different styles of language support and of site design. The differences are discussed with the sites, in Appendix 6. The different styles and designs are analogues of different mind sets and approaches to language support. One may imagine oneself travelling the academic globe as one surfs the sites, sampling language support tastes.

> Cyberspace, of course, does not exist. It is, to paraphrase novelist William Gibson, a consensual hallucination of space and surface...what we perceive as space is actually binary code, buried in vast world-wide corridors of information.
>
> Forde (2000: 40)

Web sites and software programs are visualisations of metaphors and analogues, in order to realise a concept, or a group of related concepts. Most are simply linked pages — the book analogue for knowledge has still the strongest hold, and sites reflect this by remaining chained to linear modes.[7] A frequently used metaphor in web and program design is drawn from architecture; the words *web design* are beginning to be replaced by *web architecture*. Web design as a concept may seem to foreground (for the user, not for the designer) a flat interface between designer and user, as though web sites were built two-dimensionally. The architectural image lends itself to notions of structure, and of process, but is 'undynamic' and flat, and does not represent in any visual sense the power of the hyperlink to construct system. It is therefore

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6 The question of time and use of language support materials in the lab is central to whether online language support works. For a discussion and some solutions see Chapter 6.

7 Great novels of course transcend linearity through a texture or web of images and cross-references and reinterpretations which set up the tension between the linear drive of narrative and the self-reflexivity of the whole text which 'turns back on itself' (Halliday 1985: xxxiii).

not a useful mind set for the language support software maker. The difference is analogous to that between 'grammar' imagined as a system or as a collection of rules, and the three-dimensional vision by which systemic functional linguistics creates a dynamic depth model of the system of language. It is the enormous power of metaphor and analogue (despite the fact that the analogue represents the 'merely' digital) which makes possible new kinds of program design, and which allows language support software to mirror the multi-dimensional systematicity of content which systemic functional linguistics allows one to see. Metaphor and program shape will be discussed in the next chapter, in relation to the making of language support programs.

Metaphor and analogue are therefore both powers for good and for ill in course and program design. They hold memetic power when we are unaware of their influence on the ideology of the courses we teach, and they hold imaginative and constructive power when they are consciously used as the tool by which to image courses, and most especially, programs.

The following chapter shows some ways to escape from two-dimensionality, linearity and goal-directedness, and to enter the imaginative worlds, and the 'imagined communities' (apologies to Benedict Anderson) of linked sites, which the World Wide Web offers. The potential for imagining programs in virtual three-dimensional spaces will be seen by looking at some of the ways discussed in the following chapter in which web analysers visualise both programs and the structures of the Web itself.

Finally, there are some terms used in language support sites on the World Wide Web which need explication. (Technical terms relating to the making of programs and web sites will be defined

in the next chapter). North American Universities have been providing language support online for many years. Their sites are sometimes called OWLS [OnLine Writing Labs], and their web site names reflect this: one of the best-known examples is Purdue University's Online Writing Lab at URL http://owl.english.purdue.ed .

In the 1970s, following the lead of M.I.T., American Universities treated language and linguistics as sciences, and remediation therefore seemed to be a practical procedure like any other that could be performed in a laboratory.[8] The various generations of user systems for OWLS are MUDS, MOOS and MUSHES:

MUD = Multi-User Domain — a small network with its own server, also called a Multi-User Dimension. In South Africa, this is an Intranet.

MOO = Mud, Object Oriented — specially designed program to suit a particular local purpose, for example language support on campus.

MUSH= Multi-User Shared Hallucination — appropriate to virtual writing centres. The perception that the World Wide Web occupies physical space and that users are located spatially is a 'shared hallucination'. An example is the Little Rock, Arkansas, language support site.

All of those kinds of sites can be found on the World Wide Web. Interestingly, although the sites themselves may be technically interesting, the content is often traditional, and not systemic. By traditional, I mean that it focusses on grammar and syntax, error correction and raising grades by looking at model essays. OWLS are 'interactive' within limits, for students of their institutions who have registered online (not for those using the site on the WWW). These systems use an intranet or local area network, and they require the backup of media departments

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8 Paradoxically, at the same time, American universities espoused Chomsky's generative linguistics, which necessitates the postulation of an abstract perfect 'Language', as was discussed above.

and web writing teams. They incorporate built-in email link-ups, lists of frequently-asked questions, bulletin boards, hyperlinks to other related sites, frequently updated entries and graded responses. A CDRom language software program can provide some of those interactive elements, and loaded on an Intranet it could provide all of them, with the added bonus that it is systemic.[9] The medium responds best to asynchronous learning rather than traditional large groups, because login access will then be staggered and not simultaneous.

In contrast to language support sites, computer games, frowned upon by educators who map a frontier between learning and pleasure, explore the 'shared hallucination' of virtual spaces in a conceptually more sophisticated way than most educational sites. The navigation maps of programs are also maps of virtual spaces. Since language support is made up of systems of systems there is all the more reason to conceptualise the navigation three-dimensionally, in order to help students to explore the support they need on various levels. A one-dimensional approach simply moves from Exercise 1 to Exercise 2 until Exercise 10. This will not enable 'competency', or relatively good performance (except in the specific exercises).

Word processing programs such as Microsoft Word and Corel Word Perfect have a role to play in language support. Microsoft provides help online at www.microsoft.com/education. Technet is the site for Microsoft in Higher Education — 'a new way of teaching for a new millennium'. The word processing package was developed as a writing support program, so can be used to teach students how to write clearly and more quickly, draft, rewrite and edit, use a spellchecker

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9 A possible program to use to create this kind of material is WebCT. The Mark II version of *English for Everyone* is also choosing this route.

and grammarchecker, produce professional layouts and understand the relationship between layout and content, incorporate information, use notes, insert diagrams, tables, graphs and graphics, and proceed to more sophisticated processes, such as using templates and hyperlinks and the browser. If any one item on the language support list enhances writing skills exponentially, especially for second language students from formerly disadvantaged universities, it is the word-processing package.

One must make clear to students and colleagues that teaching writing skills with generic programs does not compete with end-user computing or computer literacy or computer science. The desired outcome is different. Language is enhanced, while students acquire computer literacy skills by default, even though from the student perspective it may appear that computer literacy is being acquired, while language is improved by default. The *materials* used when teaching those word processing skills can be those of the discipline for which support is offered, so that discourse enhancement is integrated with the forms and layouts which students will learn using the computer. For students who come from schools where computer literacy is taken for granted, enhancement is still possible. The scale of support is on a continuum and at any point there is something to add.[10]

> As the use of word processing becomes general, the focus of research in this area is shifting from comparisons of achievement and attitudes in computing and non-computing environments and towards description and analysis of the ways in which technology can support writing development.
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> Collett (1996: 51)

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10 Chapter 6 describes the four module program 'Writing with Computers' which uses generic computer applications as well as e-learning software to improve the writing of students of all kinds.

Collett discusses the use of generic computing applications in language teaching, pointing out that since they are designed to facilitate the mechanics of writing, this is one of their obvious applications. He remarks that it has already (1991) been demonstrated that

> writing quality can be improved by using word processing, that higher grades tend to be achieved for word processed assignments, that affective factors such as motivation and attitudes towards writing can be improved, and that willingness to write multiple drafts is higher when word processing is used.
>
> Collett (1996: 51)

He concludes

> Language teachers who intend to implement computer assisted language learning, either as part of a language curriculum or as part of a self-access learning centre should consider the use of generic programmes, as outlined in this paper, as a basis for their innovation. This approach is likely to be more realistic and cost-effective than purchasing a range of language instruction programmes. It is also likely to engage the teacher to a greater extent in materials development and the learning process — a desirable consequence in itself.
>
> *Ib.* 57

Word-processing packages incorporate all of the following facilities, which are in effect editing tools and invaluable for L2 learners:

- dictionaries, spellchecker, grammar-checker, thesaurus, style checks
- writing process using cut and paste
- layout design, templates, columns, tables
- re-use and save, to incorporate other materials
- windows, so students can move from support to task and back
- cross-referencing and indexing
- hyper-text and a new view of the non-linear text
- linked facilities such a spread sheets
- teacher-student correspondence processes — for example using shared folders, which allow lecturers to post tasks and materials, and students to return their work.

Nevertheless, in my experience there were many problems to be solved before our generic writing program ran smoothly, not the least being IT problems such as logins, and administrative problems.

Of the small group of pioneers who were among the first to visualise the academic potential of the online environment, many are still among the innovators. Tim Johns, Andreas Lund, Keith

Cameron, Dave Sperling, Tim Newfield, Linda Harasim are names which reappear in journals, textbooks and online. North American universities and institutions provide on average, more online language help for students than British universities, perhaps reflecting the demographics of second language students, but also reflecting differences of mind-set, and of economic resources. Technical discussions on line are theoretically sophisticated and participative and wide ranging.

On-line learning does not save teacher time, or replace teaching with machines, and it does not cut costs. It does not provide a magic instant entry to knowledge and materials, and many different skills both technical and pedagogical are needed to create and provide on-line language support. The associated technologies have developed so recently and are changing so rapidly, that it is difficult to make an objective assessment of online solutions to language support in comparison with traditional courses or with each other. Some of the most recent comparative statistics seem to show that whatever method one uses to provide language support, or indeed any online support in comparison with traditionally-taught control groups, it makes *no perceptible difference* to the end result. The 'rapture of the technologies' (Noble, 1998) also comes into play on the part of the assessor and the students, and so does a component of the response where novelty itself contributes (at first) to better performance. So comparative assessments will probably not reflect a real distinction. But each course or program or CDRom can be assessed individually in itself, as providing useful or theoretically good support or practical results, and as exploiting or ignoring the technologies and their logical consequences.

A benchmark by which programs might be assessed applies to their treatment of the memetic

notions of *integration* and *interactivity* The key words or memes of the day which tend to be used to endorse courses and books need to be recontextualised when inserted into a new medium. They distort expectations of what programs can do, and conceal the truth of the potential of programs to reinvent language support. Sites may be *interpreted* as 'interactive', because of email link-ups, incorporation of sounds or voices, assessment tests and graphics, and so on. But those 'bells and whistles' are to an extent 'cosmetic' interactivity—attractive, but not interactive in any sense in which learners can make choices in a virtual world. Incorporating sound is not practical, on an intranet, even if all the workstations have sound cards, because the students need earphones, and 'earphones' then become yet another item on the list of lab management tasks. For a CDRom like E4E, the labour involved is inversely proportional to the need, but we have embarked on this phase. On the other hand *The Oxford Advanced Learner's Dictionary* CDRom provides pronunciation guides and phonology. The two programs complement one another.

One needs to redefine what the word 'interactive' means online. A linear program will take learners along paths like courses, following 'next' buttons. A truly interactive program for language support is less about sounds, and totting up 'corrects' and 'wrongs' than about allowing students to *make choices*, diagnosing what they need to know and finding the paths to their own solutions. The structure of this kind of program is inevitably complex, while that of the first is the analogue of the book. Interactivity in any constructive sense is the corollary of systematicity. Intelligent responses are difficult to achieve, [11] and to an extent illusory — cloze exercises which do not teach but offer right / wrong options as though there is one correct answer to a

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[11] See Horton, Ellis and Black 'The design and development of an intelligent tutoring system' in Williams, N. (1990) *CALL: Special Issue on Computers and Composition*. June, Oxford Intellect. Basil Blackwell, Ablex.

writing problem, and as though differences of register or discourse type, and differences between written and spoken, formal and informal, language did not exist. Even the most recent update of Natal University's CAMESE site (Geslin and Wade 2000: 5) *discusses* a 'systemic and holistic' approach, and presents a well-designed interface, but resorts of necessity to the usual grammar practice and cloze exercises (Geslin and Wade 2000: 6-7) which are assumed to signify 'interactivity' and an 'integrated approach'. Their approach to program-creation misses the point:

> We decided to combine the traditional linear programmed-learning approach of certain CALL systems (criticised by many) with the discovery / explorative learning approach made possible particularly by hypermedia technology. A middle course between the two was seen to suit our students' needs...The majority of our L2 first-year students have no prior experience of using computers, and they are not used to engaging in self study...To throw them in at the deep end, so to speak, with complete freedom of navigation in a weblike hypermedia environment would, we believe, be counterproductive. Thus, after students have entered a lesson, progress is linear, and necessarily so, as we take them through a carefully worked our progression from simple to more complex. They can go back at any time, but they can't jump ahead. An element of (guided discovery) explorative learning comes in the form of frequent interactive tasks, and resource, and glossary buttons.
>
> Geslin and Wade (2000: 5)

This description both rejects hypermedia design principles and demands exactly what a well-designed fully navigable program does by definition. Paths within the system *are* linear, and processes within the program do allow students to proceed step by step, to retrace their steps if they wish, and they can stop students from jumping steps, where this is appropriate. They can provide guided choice. Programs like *English for Everyone*, however, also provide the infinitely great advantage that there are other ways out of the linear process for those who feel they are wasting their time — that is what navigation menus are for. There is no advantage in demanding that *all* users *complete* the path they chose to embark on. Such a demand does not comply with the spirit of asynchronous learning by dis-allowing good students the option of completing

quickly and being promoted out of the foundation or support course system. The truth is however that it takes much more thought and effort by the programmer, not the student, to provide those extra options and facilities.

The desire to produce one's 'own' online materials in effect commits the materials writer to linearity, and occludes explorative learning and systematicity. It allows the memes 'off the shelf' to dismiss systemic programs. Equality of educational provision can be achieved only if there is something for everyone in the program. It is not a good idea to reduce a powerful medium to a course translated into frames.

In terms of engaging students in meaningful tasks, true interactivity may require the student to do something outside the program, therefore forcing paper and pencil marking. An example of this, described above, is the International English Language Testing System IELTS at URL http://www.ielts.org/sample.html. Interactive response at a higher level (which might include assessment of students within the program through different kinds of tests) requires a large hidden component to the program, as in computer games which are genuinely interactive. A balance needs to be struck between the huge amount of programming in HTML, the pay-off in perceived student activity, and the actual enhancement of learning or of language ability (whether measured as competence or as good performance). Mark II of E4E is about to contain a wide range of tests and assessments.

> [The] demand... that the computer should interact 'intelligently' with the learner... is a stance which I have always found rather baffling, since none of the other common teaching aids, from reference book to film library, has been burdened with the prerequisite requirement of intelligence. The computer is no more innately intelligent than any other learning media....The arguments for the intelligent tutor...demand that the machine be somehow 'customised' to meet the needs of individual learners at given

> stages in their study of a language. Beyond the very simplest level of knowing that student A has completed the first unit of a computer-based study program with a 40% accuracy in response...the complexities of designing a system that will function properly completely outweigh the cost-effectiveness of such a system.
>
> Last (1992: 231)

Programs raise frustration levels if students cannot proceed on a linear path until they have answered questions correctly (*Ib.*232). Resentment is in any case a feature of student attitudes to language support. In many courses unnecessary complexity (time-filling, memetically inherited tasks) already clouds the issues. Real learning allows students to control their own learning in highly intensive interactive modes (*Ib.* 235).

Because new programs are both more complex, and at the same time have more user-friendly interfaces, there is no longer a need either to fear the technology of language support programs, or to feel that it may be exploited for its own sake. It is still true, however, that many effects need complex programming. Programming has to work, infallibly, *every* time, if programs are to be navigable. One undone link, or effect which does not work, can disable the whole program.

Several routes to online interactivity are described in Appendix 7. They may be critiqued as follows.

1.

The question-and-answer group comprises

- cloze exercises (filling in selected gaps in continuous prose)
- multiple choice questions
- choice boxes in sentences where learners can choose options from offered menus
- things to do — drag and drop items from the 'wrong' place, or from a list, to the 'right' place
- highlighted text puzzles.

A facility can be built in to allow students to select from pre-programmed choices (usually up to four or five one-word options) and to provide, in response, hints, explanations and the 'correct' answer, with links to related materials and explanations on other levels. If the computer is to *assess* the rightness or otherwise of student choices, then the options are in effect answers to closed questions. Correct responses do not indicate that students understand general principles; correct *performance* does not indicate that unmeasurable quality, *understanding*. One correct performance does not enable future correct performances in the same set or subset. Those options therefore are less able to enhance tertiary literacy than teaching students how and where to find answers on an ongoing basis, by following program paths. The tests can measure prior ability. The smaller the sample of questions, the larger the role chance plays in determining success. The art of multiple choice sampling is a field on its own. Students whose testing career is through multiple choice questioning (and sometimes this means their whole university career in some disciplines), never have an opportunity to write continuous prose.

> If the computer is simply programmed to print 'Wrong' on the screen to an incorrect response, this is pedagogically a far from sound procedure, particularly when the learner is baffled as to why he or she is wrong. Even worse were the programs which allowed for one answer, and one answer only, when a number of answers might justifiably be regarded as equally correct...The learner is simply on the receiving end of how not to program a tutorial CALL package.
>
> Last (1992: 230)

These test methods cannot respond intelligently to continuous prose — the word processing package spell- and grammar-checker does this job better than 'interactive' tests. Interactivity means, in effect, testing (either self-, or official). Tests demand results. Using a word processing method shifts the mind set of what the student is doing from competitive testing to the concept of editing one's own work, enhances academic literacy, and instils self-reliance. It may be argued that spell- and grammarchecks are not reliable — they do not recognise names and cannot

distinguish homophones, for example — but using them competently is another lesson in the process of providing students with tools and resources. It is possible to show learners how to accommodate the inadequacies of spelling and grammar checkers.

Cloze exercises, comprehension questions, reading tests and the like are often culture-specific — South African students find British cloze exercises cryptic. Lists of grammar categories and kinds of syntax, where the user can 'interactively' click on each to find its definition, and click again to find examples, appear in some web sites in Appendix 7. This satisfies the current perception of interactivity, but does not satisfy the requirement that students should learn from what they do; in this case the skills are not transferrable. The only advantage over the grammar book is that students who would not read grammar books may look at the site, though it is debatable whether they will transfer what they see there to their own writing.

All of those formats frustrate the need for open thought-provoking searches, which is what one might expect interactivity to mean: learning by diagnosing one's own learning needs, as opposed to learning by being told, and applying what one learns to one's own work.

2.

There are online packages on local networks (intranets): course materials, email and discussion forums. These are often protected by a firewall as defence against outside intrusion. Internally, the students who are given access to specific course materials use login systems, and access one of the servers, perhaps using a folder which they share with the lecturer concerned. If they have access to email, students and lecturers can respond to each other. The materials provided on this system can in theory be integrated with mainstream courses as they proceed through the year, to

provide specific language support matched to the needs of the discourses of specific disciplines. Institutions are beginning to provide posts in a media department for their own web writers and materials creators. If those ideals were practised — email link-ups with tutors, asynchronous learning, materials matched and updated to fit individual courses, and created in a format which allowed for interactive responses from each student, then students would receive 'fully interactive integrated' language support. It would not necessarily be also systemic, and therefore not necessarily helpful. In South Africa the University of Cape Town's Media Support web at URL http://www.megweb.uct.ac.za is working towards the standards and methods which are current in some American universities (for example Washington, Seattle). This site is discussed in Appendix 7 . This is an ideal scenario, expensive, logistically complex, and presupposing a high level of expertise and speed of constructing materials. It also presupposes either experts for each discipline who will provide materials on an ongoing basis, or templates through which lecturers can provide text files. The process requires access to computers and a level of IT support and lab management infrastructure which is not often compatible with the still traditional practices of many South African campuses. The members of the UCT team find IT support a problematic aspect of managing the system (Walton and Clark 2000:1). Secondly, they provide as yet (2000) for a very limited range of students. They have an extensive project in preparation.

Disadvantages of this approach *might* be:

- there *may be* no overview or systematicity informing the materials posted
- quality of materials may be uneven
- materials writer and HTML writer are different people, so format (medium) may not evolve in tandem with content
- logistical and management problems which have to be solved — challenging and time-consuming
- cost
- integration with departments — in effect few departments manage to use this facility. The University of Washington's Catalyst web site includes templates for faculty members who wish to post materials. They say the facility is not yet widely used (meeting,

> University of Port Elizabeth, August 2000). They also say that without the support of graduate students they would be unable to continue.

Where institutions have chosen this route, it still does not preclude, and in fact would be enhanced by, the concurrent installation of resources in the form of a suite of support programs. Useful ones are *The Oxford Advanced Learner's Dictionary*, *The Oxford Interactive Wordpower Dictionary*, *Encarta*, and *English for Everyone* by means of paying for site licenses, with Internet connections to *Encyclopaedia Britannica* online at http://www.britannica.com (initially, free, but now by subscription) and down-loaded materials from other sites.

3.

There are many useful Internet sites with information and links, some personal and others institutional; the OWLS, MOOS, MUSHES and MUDS discussed in the preceding chapter all limit access to outside users with firewalls, and other sites request subscriptions or logins. Some personal web sites, for example those of Tim Johns, Dave Sperling, Andreas Lund, Linda Harrasim and others (see Appendix 7), provide valuable L2 and EFL help for students, for special subjects or as general academic support. They do not aim for completeness, but are thought-provoking and act as 'vortals' for a wide range of other sites with different presentation styles, and different sorts of content. The sites are too slow of access to be used as active student support in a lab situation. They are best used for source materials and teacher support. These sites presuppose intelligent and motivated students, and informed lecturers. Some North American sites (Purdue being the best known) provide a great deal of online support in the shape of grammar and exercises in down-loadable form.

4.

Programs on CD and CDRom have the capacity to incorporate structured interactivity and integration with different disciplines; so far the only program which meets the requirements for systemic interactive and structured online language support is *English for Everyone* (discussed in Chapter 5). This software program expects students to diagnose actively and consciously their language needs of the moment, find the route through the program for that specific help *and* apply it to their personal needs by moving from browser to generic program and back. Students should bring to the program their own current work in their own disciplines, and solve their own problems. In order to use it, they have to engage with the program and their work in a sort of continuous self assessment. Students begin by choosing from the four core categories, then narrow the search, in no more than three or at most four clicks of the mouse, to reach the information or methodology or process or practice or explanation they need. In principle, it is like using an identification guide.

It is a commonplace that learning is enhanced by active engagement rather than by passive reception of information. At the same time, at tertiary level the quantity of information to be processed is too great to allow all of it to be 'drawn out' of the student or built up from 'where the student is at'. By taking responsibility for their own learning students become interactively involved with the disciplines of their choice. One can provide links to structured and utilisable content materials relevant to the discourse of their discipline. In every discourse at tertiary level, information is as necessary as practice; students need to learn methods, how to perform information searches and what tools to use.

Until now, interactivity online and intelligent response programs were only a dream (Last

1992:231, and above). Programming input was inversely proportional to any interactive advantage gained. One can now provide a variety of testing and assessment techniques, with hints and answers and further links, and with estimation of students' scores. The complexity of a program which responds '*intelligently*' to right or wrong answers at tertiary level is formidable.

Two attractions of learning on-line are asynchronous learning, allowing students to follow their own pace, and distance learning. In a world where knowledge should no longer be the possession of the rich or the mobile, computer assisted learning would seem to be part of the solution. It is difficult to manage large numbers of learners at different paces and in different places — there still has to be at least one specialist lecturer or materials designer at the end of the emails, a web designer, IT support, supervisors and tutors, an administrator (and even a financial manager) to run this labour intensive operation. The problem of IT sustainability has implications for distance learning by computer — an intranet can now provide programs for outreach communities, but they cannot be sustained without the presence of IT support on the spot. Telelearning and videoconferencing also provide useful technologies, with the same reservations. A CDRom can however be loaded anywhere.

For many reasons, therefore, a mixed media package, of CD programs, intranet with email linkup, video cassettes and attentive tutors, together with administrative and teaching support and IT management would provide online and distance learning infrastructures — but at a high cost per full time equivalent student, both financially and labour-intensively.

The virtue of computer support lies less in dream scenarios rather than in the shared, team effort

of using programs as an integral part of normal tertiary education, interlinked with lectures and tutorials. Part of the attraction lies in the practical nature of working with computers, in the quality of program design, in the added educational rush which students get when they feel the sense of achievement that any sort of computer support provides, and in the multi-directional exploratory non-competitive environment of the computer lab. It replaces the figure (and voice) of the lecturer with a range of activities to be performed, and it replaces the linear syllabus (timetabled and paced) with self-directed, self-paced practices.

Evaluation of courses or programs in part depends upon the logic and coherence of the course or program, and in part upon the assessment of student performance in them, and student attitudes to them, using course assessment questionnaires. The value of support courses and programs should be measured, not by pass / fail / improvement in *that* course, but by quantifiable improvement in *supported* disciplines. It has been shown that students who master the discourse of their subjects perform best overall in that subject.

> Most software for writing is built around the traditional pattern of writing teaching, that of plan - draft - revise. Although much research in the 1980s questioned this as a model of what writers really do...this straightforward linear model nevertheless remains the prevalent one in training and education. This is true whether writing training is explicitly or implicitly linked to a sense of how writing is done.
>
> Williams (1992: 247)

This comment by Williams still describes most online language support, where the traditional model is transposed to a new format. *English for Everyone* both includes *and* steps outside this model by providing the means to explore on the one hand, and directed choice on the other. It embeds communication within the systemic systems of 'English'. 'English' is conceived of as layers of navigable maps, both of language as representation of the real world, and of the

interwoven systems which make up language support.

Finally, it is important not to promise what cannot be delivered. To put it very simply: written texts embody a distinction between the writer, the narrator and the reader — the writer creates meaning, genre bears meaning, the reader creates meaning, but all lie within the parameters of the possibilities in the initial set up. The computer program is the same. Someone makes it, and someone else uses it. Software does not 'teach grammar' so that at the end of a 'course' students will now 'know' grammar. It teaches students how to monitor their own work, not a one-off job, but a life-long job. The user can also not step beyond the bounds of the initial set-up, and for many practical and legal reasons cannot 'annotate, edit or delete portions of texts' or 'embod[y] Barthes's 'reader-as-consumer', as suggested by Thomas (1997: 114).

This sort of imagined interactivity relocates the physical hard work (performance) of making language support software, tying and undoing links and making the whole thing work, into the rarified atmosphere of literary theory, to the extent that the imagined replaces the real. Users can down-load pages, and edit or change them or delete them to suit themselves. But they can't then slot them back into their hypertext context. The links are gone, and they are left with an un-hypertext page, a puppet with its strings cut. In interactive environments such as intranets where internal email links or teleconferencing systems are set up for students to use materials and respond, they too cannot 're-write' the materials, unless a space in a folder or directory is made for them to do so. The operative words here are 'is made'. By the program maker.

The idea of distance learning is subject to the same illusion that miracles can be accomplished. Thomas is by no means alone when he says

> Learners who have difficulty getting on to campus to meet and engage with their peers, for instance, *are provided* [my emphasis] valuable opportunities otherwise lost for interaction and peer support in problem-solving.
>
> Thomas (1997: 119)

The memes of the interactive education discourse surface here, in the faith that 'peer support' is valuable for higher learning, that 'interaction' is necessary, and that the name of the game is 'problem-solving' rather than information gathering, editing or plain learning. In contrast, the makers of the SuperJANET network system[12] about which Thomas writes promise quite specific results — 'being able to provide students in the UK...with access to native-language speakers...from France, Germany, etc.' (Thomas 1997: 119). The truth is that email will do this job, without any extra exotic programming. The world of real technology intervenes between what theorists like Baudrillard envision, and what can be done. The gap is as wide as that between H.G.Wells' vision of 1984, and that year as we experienced it.

The World Wide Web is a democratic and diverse environment which 'transforms the way we create and communicate' (Johnson 1997 Title). The Web passes judgment through evolutionary processes. If the design is good and the navigation works and the product is acceptable, then the site or the program *may* be fit to survive (Mitchell 1995: 4). As Dawkins suggested, evolutionary selection processes do not lead to a goal:

> Natural selection has no vision, no foresight, no sight at all. If it can be said to play the role of watchmaker in nature, it is the *blind* watchmaker.
>
> Dawkins (1986: 1)

All processes are in the end subject to entropy. There is no one right program for language

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12 A multimedia conferencing system created at the University of Hull. See Matthews, E., Watson, A., Buckett, J. and Watson, T.J. 1996 'Multimedia Conferencing for Remote Language Teaching over SuperJANET' in *Computer Assisted Language Learning Journal* Vol. 9 No.2-3:96-106.

support. There are many, and none.

CHAPTER 5

A case study: designing the program *English for Everyone*

'If you want to have something that's genuinely unstructured, you have to plan it carefully'
Bradbury *The History Man* (1975: 6-7)

The idea for *English for Everyone* [E4E], the concept of a hyperlinked web of information about English in which students could explore for themselves their own routes to their own language needs, arrived in a flash of momentary inspiration. But at every stage of the design process there were technical problems to solve. (And now, 2001, we see new, and interesting, technical problems). It took more than two years to make the program; for the final six months, January to June 1999, my colleague and I worked an eight or ten hour day on it, at linked computers. We found a publisher almost immediately. But it then took the publisher another two years to market the product. At every stage ideas were modified or developed by the restraints and the power of what was possible. What is possible is determined by the software one uses, by ingenuity, and by the vision of the problems one wishes to solve.

Making a software program is labour intensive and demands extreme concentration, since one false link disables it. Initial problems involved navigation design, creating systems and subsystems, screen design which ideally mirrors or clarifies content, template creation for form and colour and layout, image types, copyright permission...the list is long. Navigation design was the major primary task. Once templates are set up, changes to them can be made systemically; each aspect of the template can be changed throughout a program in a single operation. The template itself, however, has first to be created. There are programs for making programs. Some are easier to use than others, but at the same time, one has more options with

more complex interfaces. One can use, for example, WebCT, or Macromedia Dreamweaver, or FrontPage 2000: they offer different capabilities. Or one can customise the whole setup. My colleague Jano Jonker must be given credit here for his unique expertise.

We used questions as the means to design the program. There were three different ways in which questions played a part in shaping E4E.

(1) We asked questions of ourselves in relation to the needs of learners, similar to those suggested by Hutchinson and Waters (1987: 21-22) :

What will students need to learn?
How will they learn?
Who is going to be involved...(stakeholders)?
Where is the learning going to take place?
When? How much time will be needed?
How will the program be used?
What are the goals, outcomes, content?
What learning theories?
What methodologies?
What linguistic theory?

(2)We asked questions of ourselves while making the program, in order to design and rank the information we wanted to include:

What are the main sets and subsets?
What do students need to know to understand this (what level explains this level)?
What prior learning or understanding do they need?
What topics are related on the same level?
How do students get back to the previous step / their own previous position?
What could all the possible previous steps have been?
What routes or paths would we prefer students to follow?
What counts as background knowledge in this case, and what as necessary?
Where should students be free to explore?
How do we prevent students from getting lost?
How do we integrate screen design with content?
How do we make sure that screen design and Internet protocol and design mesh?
How do we accommodate learners with disabilities?

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(3) We hardwired (metaphorically speaking) a new kind of interactivity which forces students, in order to use the software, to ask questions of themselves. We did this by formulating the program itself in the shape of frequently asked, or most likely to be asked, questions:

How do I...?
What is...?
Where will I find...?

In this way we made students interact with the program to diagnose for themselves where to go and what to do. We made some routes deliberately direct however, so that choice was free, but at the same time guided. We did this by foregrounding some options as more attractive or obvious, by conspicuously positioning leads and cues in the design of the frame, and leaving other options open but in the background, for example offered in the navigation bar only.

We used the navigation organigram as it developed under those question- and- answer conditions to create the internal logic of the program, and by analogy, the logic of an evolving conception of the shape of English studies, which gradually meshed with the systems of systemic functional linguistics.

It is clear, on the basis of systemic functional linguistics, that there is a central core of language needs within the register of formal academic English, with which all students need to be familiar if they are to perform professionally.[1] The central core of the program therefore had to be the shared skills, knowledge and processes which characterise the practices of academic writing. From the central bank of choices (reading, writing, general skills, advanced skills and

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1

It does not matter whether the core is the traditionally high register, or whether it is lowered to conform with more 'democratic' English. Once a whole program is created, the registers can be adjusted to need, and options can be accommodated.

knowledge), the program branches in every direction through the systems and sub-systems which make up the systematicity of language as a whole. Each level becomes more specifically applied as it does so; as was made clear by M.A.K.Halliday, the explanation for any one level is on the next level:

> The essential feature of a functional theory is...that it provides a basis for explaining the nature of the language system, since the system itself reflects the functions that it has evolved to serve.
>
> Halliday (1971: 65-6)

This is the essential aspect of the linguistic systems which makes navigation of a software program for language support possible.

The core is best not chosen from *among* the levels or systems which create the paradigm of academic English, because as Halliday says, no one point is a source on which the linguistic hierarchy is built, but all participate in meaning formation with all the others. At the same time, there are probably other possible starting points besides the one which is chosen above.

The organigram of the navigation view of the software program is a two dimensional, flattened, image of the program, because the dynamic cross-relationships which the hyperlink view adds to it are invisible. Making language software programs involves a learning process on three inter-related levels: the linguistic, the design and the technical.

For navigation to be practical, hyperlinks need to be used sparingly, deliberately, and with conscious attention both to whether they move up or down one level, and to how students will retrace their steps. At first it is very tempting to link everything to everything else — this doesn't work! Better practice allows the menu bars at the top (which remain constant for each group

within a tree), and the navigation bars at the side of the screen, to provide links forward and back and to home, and to show users where they are in relation to their point of departure (see Appendix 5 for an example).

Several software design elements played specific roles in making English for Everyone. One might begin with ***screens, frames* and *windows***. Other terms will be discussed in turn. From the point of view of the maker of a program, each screen represents one HTML file, a fact invisible and irrelevant to the user of the software. Each file deals with a discrete topic. Web sites are made up of several screens hyperlinked together in a logical form. But software programs can be made of several hundred hyperlinked screens; E4E Mark I contains about 400 screens. The essence of the topic should be visible when that window is opened. From the point of view of users of a program, each screen contains all the information they can read by scrolling up and down without clicking on a link to move to a new screen (the terms *screen* or *page* or *file* depend on the point of view from which the information is considered).

Some screens may require scrolling down rather more than one might wish. Ideally, in a web site, the monitor screen should contain the whole file without scrolling, but in a language support software program this is not practical and less necessary than covering fully the subject of the screen. Screens can however also be printed out. Screen design should be minimalist, so that it does not interfere with the message — in principle, as few words as possible. Colours and fonts should be used systemically and with restraint, so that each colour or font has a specific application throughout the program. Graphics should be structural, not decorative. Heavy graphics add to the size of the program and distract from the content. Screen design and layout

should reinforce content. Continuous paragraphs of prose obscure the message and slow down the process of scan-reading which has become an Internet characteristic.[2] At the same time, a textual revolution is increasing the amount of solid content on the World Wide Web.

When making a program, it becomes clear, with hindsight and experience, that the place to begin is *not* at the beginning, with what one might conceive of initially as screen 1. Screen 1 from the point of view of a student user (the core or central point of the system, from which all others can be reached) is not the same as screen 1 from the point of view of the program maker (which might be anywhere: the screen from which the others are logically derived). One can begin from the core, by mapping out a potential shape for the program, an algorithm or simply a map which holds it together as a coherent whole. This plan should not simply be 'an electrified table of contents' (Johnson 1997: 133); the power of hypertext is such that it creates a systemic paradigm for text in space. To ignore program architecture by simply making hyperlinked lists of screens is the conceptual equivalent of writing a linguistics text-book alphabetically, beginning with *a*, *adjective*, *adverb*... through to *verb* and at the same time *also* handwriting the book.

A screen can contain more than one frame. Frames are separate files which look as though they are all part of the same screen. They may be linked together as subsystems. All the parts are 'separate or discrete regions of the infosphere' (Johnson 1997: 93-4). As can be seen in the

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2

Research in 1997 by Sun Microsystems into how people read on the Web shows that the new reading experience consists of 'highlighted keywords, bulleted lists, frequent subheadings, and paragraphs containing exactly one idea. Nothing sticky....'. Web readers, they say, 'scan, sampling words and phrases ...because any one page...competes for attention with millions more... A respondent in upper management said: If it doesn't come right out at me, I'm going to give up on it' (Gleick 1999: 87).

screen printout in Appendix 5, some frames contain banners (headings which do not change within a set of related screens). Different frames can be scrolled through independently while others may be visible. While scrolling through one, the others stay in place, and provide information on a different level. The disposition of frames and screens is determined by the structure of the program or web site envisaged by the program-maker(s), and is shown in the navigation view. One can manipulate the disposition of screens in the navigation view by 'drag and drop' or cut and paste, until the optimal disposition is arrived at.

Frames may contain menus and navigation information which apply to a whole set of screens. The frames are organised to change only when the set changes. They can also indicate by highlighting or by font and/or colour changes where users are in relation to home and to the paths they are following.

Graphic interface packages provide templates which make using banners as navigation guides less complex. But creating and disposing frames is complex and time consuming, and requires expertise. Some programs, such as *The Oxford Advanced Learner's Dictionary on CDRom*, by Oxford University Press, are made by large research, web-writing and graphics teams.

Hyperlinks convert linear text to a three-dimensional depth model. Users can recognise links by:

- their colour — often blue, underlined, changing colour after they have been followed
- the fact that the cursor changes to a hand or other image as it passes over them
- highlighting as the cursor passes
- images or selected parts of images (called hotspots) where the cursor changes (to a hand) as it passes over them

Links can be made from words, buttons, icons, lines, images or parts of images. When a

hyperlink has been followed by a user, it is usually programmed to change colour, perhaps from blue to purple or red.

Program makers make hyperlinks to allow users to navigate from file to file by clicking on them. Hyperlinks perform many functions. They are the tool by which the navigation system is made and used.

They can link:

- groups of web sites within a subject area
- one web site to another
- screens within web sites
- concepts within screens to new screens which contain more detailed or intensive exploration or explanation (one level up or down)
- explanations to illustrations and examples
- examples to practice
- practice to answers
- screen bottoms to tops
- items on a screen to items further down, or notes to footnotes (bookmarks)
- index entries to content
- navigation bars and menus relative to each other and to home

Essentially, they create immediate electronic links between webs, files, folders, documents, or parts of documents. When users click on a link with the mouse, they invoke a command to the web browser to take them to the new position. The effect of links is to lead users off on new or secondary paths or down or up through levels of explanation within a system — either a temporary diversion, from where they will want to return to the former position when they have found a particular piece of information, or a choice of a completely new direction.

The shape of a program is controlled first by screen relationships, and second, by links among selected screens

Levels and design models: in terms of E4E as a language support program, a level refers to all the sets or categories which are equivalent in rank. For example, one might say that *report writing* and *essay writing* are equivalent in rank, as subsets of the category *writing*; and *verbs* and *nouns*, as subsets of *grammar*. Neither would be selected as part of the other; you would not expect to find *verbs* by choosing to search under the category *nouns*. Each can be broken up into subordinate parts or subsets which form a new level.

The essence of hyperlinks within text is that they allow users to move one level up or down, or to move sideways on the same level. Moving one level up or down means moving to or from the general to the specific, statement to explanation, or explanation to example, or example to practice, or practice to answers. Moving on the same level might involve moving within a particular category, for example from *verbs* to *nouns* to *adjectives* within the category *grammar* which is one level up; or from *Old English* to the *Romantics* to the *Victorians* within the category *literary history of English,* within the category *background information,* within the category *advanced skills*; or from *epic poetry* to *oral literature*, from *allegory* to *postmodernism*, or from *reading* to *writing* to *general information* to *advanced information.*

It is clear that the items listed above are not equivalent or on the same level: *Old English* is qualitatively different from *epic poetry*, and *epic poetry* different from *allegory*. They belong in other words to different sets, within different paradigms. If users are to find what they are looking for in a windows format they can simply flip down the index or use alphabetic entries, and the program allows for this option. But for hyperlinks to work and navigation to be intuitive,

and for explanation to be built in to the system, to allow students to *explore* a topic to the full, or solve a problem, every item has to be located within the scheme of the program in relation to every other item, in a structured series of hierarchies and levels.

The major categories at the core, the first choices which confront students when they open the program, have to be chosen carefully. All the routes from the most peripheral level back to the core, or back to the previous position, or back home, need to be retraceable if users are not to be lost in a virtual world where *control-alt-delete* is the only way out.[3] Users need not be computer literate to *use* the program — they simply follow their own needs by clicking on what they want with the mouse. Disciplines can find paths, or areas, applicable to their needs. Lecturers can select and print paths on transparencies for an overhead projector or a slate. Students can explore, and enhance their understanding in diverse ways.

Paradoxically, then, programs which select *core* needs which apply to *all* disciplines are the *only* programs which can provide *integrated* support for *each* discipline. *Interactivity* is translated in the program as self-paced learning, self-diagnosis of needs, exploration, and transfer of, or application of, information to one's own work.

HTML stands for Hypertext Mark-up Language. This is the computer language or Web code in which materials for the World Wide Web are written. It is read using an Internet browser. Windows 98 has a built-in browser, and so even if your pc does not have an Internet connection,

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3 In programs the exitless trap is also a problem with cloze exercises, where it is difficult to make sure that there is only one answer, and that the answer is obvious, or the user is stuck. If the answer *is* obvious, there is not much learning value attached to getting it right.

information downloaded from the web, or on CDRom can be read by opening the file or document using the browser.

All documents on the Web have to be translated into HTML. Many programs translate text into HTML; FrontPage 2000, Web CT and Macromedia Dreamweaver, mentioned above, are perhaps best known. One can work with the language directly. You can have direct access through your Internet browser's HTML editor (Internet Explorer FrontPage Express, or Netscape Navigator Composer). All of those programs enable the creation of an interface — 'the zone between the medium and the message' (Johnson 1997: 41) — between HTML and people who want to make programs or web sites but who do not have the expertise to manipulate raw information using HTML tags, and between HTML and users. HTML itself manipulates the digital codes.

> For the illusion of information-space to work, you had to be able to ...move things around, make things happen. That's where direct manipulation came in.... There was a strangely paradoxical quality to direct manipulation: in reality the graphic interface had added another layer separating the user from his or her information. But the tactile immediacy of the illusion made it seem as though the information was now closer at hand, rather than farther away. You felt as though you were doing something directly with your data, rather than telling the computer to do it for you.
>
> Johnson (1997: 21)

The graphic interface links function and form. It has the power to bring new messages, which challenge the memes of English studies and of language support.

Hyperlinks reduce the complexity of text on the screen, because explanations or expansions need only be accessed if they are required. They spell the death, on the web, of the period sentence. They make it possible to prune sentences and show structure clearly while at the same time

allowing infinite expansion to a very large program which is invisible to the users until they *choose* to explore any bit of it.

> Use hypertext to condense prose, not expand it. Links aren't the optional extras on the menu 'further reading' and they aren't constructing an 'environment' ... hypertext is an opportunity to withhold information, to keep the reader at bay...move faster, leave trails to do the work, point to allusions and leave it to the reader to choose or not choose to follow... Links are like modifiers, like punctuation, something hardwired into the sentence...the grammar of links...hypertext follows a centrifugal path, forcing its readers outwards.
>
> Johnson (1997: 133)

Johnson's style, incidentally, is a good example of the way in which formal academic English may be moving towards a lower register.

Balance needs to be struck between the number of links per screen, the amount of extra information which might be needed, where to store that information, and clarity of layout. Too many links leads to chaos in navigation. The optimum number of links gives the program maker the power to guide (behind the scenes) the choices made by users.

Since Internet reading is in effect scanning, depth and density are provided by hyperlinks. The hyperlink creates:

- *simplicity*, because subordinate ideas or explanations are relegated to subordinate screens
- *depth*, because it enables many dimensions to be added to a screen without clutter
- *order*, because links are less about 'surfing' or random information-gathering or 'mindless channel switching' than about wanting to know *more*.

Johnson imbues the search for 'more' with his own inimitable sense of the mystery of the virtual world:

> The link should usually be understood as a synthetic device, a tool that brings multifarious elements together into some kind of orderly unit. The most compelling cultural analogy for the hypertext webs of today's interfaces turns out to be not the splintered universe of channel surfing [or of postmodern disassociation] but rather the damp, fog-shrouded streets of Victorian London, and the mysterious resemblances of Charles Dickens. 'Links of association' was actually a favourite phrase of Dickens.
>
> Johnson (1997: 111-2)

Mitchell expresses the magic of the Web as a 'space to enter and explore', where the mouse becomes the *alter ego* of the explorer:

> Technology has traditionally been represented as prosthetic, an extension of the human body — after the mouse and the windows environment, it becomes an environment, a 'city of bits', a space to enter and explore, and the arrow of the mouse pointer becomes a *doppelganger*...
>
> Mitchell (1996: 24)

This new kind of perspective on the role of technology has repercussions for the sort of learning process which happens when using programs: personal, private, self-paced, internalised:

> The more you know about the site on the other end of the link, the more meaningful the sentence becomes.
>
> Johnson (1997: 144)

Links provide the illusion of choice, where students analyse their own needs, and the program anticipates their analysis by showing them where to go next and also showing them the way back. Thus choice is controlled and guided.

Creating a navigable program where every link works and where every step is retraceable is a major task. And even at this point, the end of the process is far in the future. It is tempting to add links because they can be added, creating what Johnson (1997: 133) calls 'mindless hypertext' — linear prose with links to sponsors, alphabetical lists with bookmarks, links to sites which have gone or not yet been set up, links from which there is no return, or which bear no relevance

to the path users are following, links which simply form a list of items... Lewis Carroll mocked the list as paradigm: 'shoes and ships and sealing wax, And cabbages and kings'.

Copyright and web ethics: it is as important to remember copyright law when making programs, as it is when using Internet materials. It is tempting to use diagrams, music and images to enhance the product. The copyright for paintings — even old masters — belongs to the text in which you found the reproduction or the website from which you downloaded it, and the rights for music belong to the record or tape or CD producers who published that particular recording. One cannot accompany a program with a sound track or images unless one requests permission or makes them oneself. Web ethics and intellectual property rights are defined at http://wise.fau.edu/netiquette/net/ten.html and also at http://the Node.org/lt report , in a document called 'The Rights stuff; Ownership in the Digital Academy'.

Text, graphics and interface design: although images or graphics can be distracting, and slow down access to programs, making them difficult to download, at the same time, a good image is worth a thousand words. On a CDRom, the size of images does not matter. It may be best to avoid temptation and take the straightforward route, letting navigation and clarity take precedence over decoration. Johnson (1997: 138) points to 'the renewed importance of text in interface design'. The graphic interface is seductive, because it prioritises images over text; but, 'the textual revolution may be the Great Leap Forward of interface design circa 2000' (*Ib.* 149). At the same time, lecturers, publishers and users who have not made programs or used them to teach with, tend to judge programs by the presence or absence of those very images and tricks which disable learning in the program. The publisher of E4E suggested incorporating 'speaking

practice for foreign students such as Korean learners of English', despite the fact that the program was designed for ESP, not for EFL. Colleagues say they would like 'more graphics'. Academic Development practitioners have said that it is not 'interactive' or 'integrated'. We have been told that it should focus on HIV/Aids. We have also been told that lecturers do not want an 'off the shelf' program; alternatively, that they want a program which will assess their students.

Visual effects do reinforce meaning in this medium: space and colour and font size and style can be used effectively to make points clearly. It is tempting to overuse favourite effects. The important thing is to be consistent.

Mark II of E4E will incorporate key strokes to accommodate ***disabled users***. A colour blind colleague points out that colour blind users cannot read screens where the print colour is of the same intensity as the background; however contrastive the two colours seem to the average person, those screens are illegible to them. A second problem with colour is that monocolour printers translate some colour qualities in HTML as shades of grey, which are invisible when printed. Several web sites have used olive green to produce long bibliographies or lists of links to other sites which would be very useful, if they could be printed. If you encounter this problem, try downloading the screen to a disk and copy and paste the section you want to Word Perfect or Microsoft Word, edit the text colour (using reveal codes to see hidden commands) then print.

It is useful to define up front what a software program can ***deliver*** and what it can not. Programs

can generate enthusiasm which communication courses lack; they are non-discriminatory and will not be perceived as directed at black or second language students. On the contrary, they are seen as one way to escape from a disadvantaged education system. They do not replace teachers, but provide online continuous help and guidance. They are tools and resources, not courses.

> Many of the early grand promises of artificial intelligence have gone unfulfilled and will continue to be unfulfilled unless there are some spectacular breakthroughs of a kind that do not seem imminent.
>
> Mitchell (1995: 178)

No program (or course) can promise to the individuals who use it:

- an increase in marks
- good grammar

No program can promise to departments whose students use it

- improved grammar, or 'good English'
- less work for department members
- interactive engagement with the program in the sense that lecturers expect
- realistic assessment of student performances in the discourses of their disciplines

If program materials are well designed, *completion* of the tasks successfully is a measure of mastery of the materials. If students complete the tasks in groups, they are still learning, and are also learning team work.

Memes such as 'interactive engagement' suggest, without offering evidence, that an 'interactive program' (however one defines and designs such a thing) will make learning easier, or even save learners the trouble of engaging with or taking responsibility for learning. There is in fact no escape from the hard work of actually learning things (Maddison 1987: 23). For this reason, the program E4E recommends strategies for students. It cannot *make* students increase their vocabulary or learn more words — it can only show them *how to* do it. It is possible (though unnecessary when a wordprocessing program is available) to incorporate notepads to which

students can transfer their own notes and ideas, or customise the software.

The memetic idea of interactivity online, as has been discussed above, brings with it uninterrogated expectations. Interactivity which leads to learning is *not* primarily accessed through answering multiple choice practice questions online. It is possible to refine the process by adding hints, and links to further information. Closed questions with one-word right or wrong answers is not in the ethos of tertiary education. Personal experience shows that filling in one-word answers is either too easy to be useful, or complex enough to prevent intelligent people from guessing the 'right' word.

I therefore prefer to suggest that the term 'interactivity' should be redefined in the context of tertiary language support software: a new concept of interactivity is essential. It may include several functions. Interactivity will not mean typing in answers to multiple choice questions while the program tots up scores. It will rather involve some or all of the following processes:

In order to use language support software students need to:

- bring to the program the materials and assignments which they are engaged with in mainstream courses — that is, use integrated learning
- diagnose for themselves what they need to know or find out
- seek their own paths through the program, and therefore their own goals
- become responsible for their own learning processes
- learn asynchronously — at their own speed
- support each other and work in teams
- browse and explore for interest, pleasure or to fill in time
- practice examples and access answers
- learn to move freely between word processing program and support software
- become familiar with the Internet environment
- acquire marketable skills
- acquire a self-access resource and learn to expect to find other similar resources
- interact with lab assistants and lecturers outside the program and in other languages

- work in a non-competitive environment
- work in a continuous-assessment environment

Language support software which begins from the concept of ***core needs*** can, paradoxically, provide integrated support methods and materials for different disciplines, and can be extended and expanded to include more materials. E4E, for example, should be used *in conjunction with* generic word-processing programs such as Microsoft Word or Word Perfect for Windows.

E4E developed outwards into a large edifice in order to provide systemically the knowledge which students may need, to understand *why*, as well as what and how. The program grew from systemic functional linguistics as the foundation philosophy, through the systems of grammar, lexis and syntax, registers and texts, genre, writing and editing processes, cognition, skills, resources and background information, to cover the systems of English studies in general. In this way, both the core needs and many of the divergent or specialist needs of different disciplines can be satisfied. The program has the power to do this, and can still be expanded to embrace more specific particularised needs, or to provide whole new loops, and activities.

'Beginning at the core' can be understood, depending on point of view, in more than one way, as:

(1) deciding on the core concepts that all students need; in our case we choose reading, writing, general skills and advanced skills and knowledge (the edifice does not rise, from the *user's* point of view, from phoneme to genre).
(2) looking at the navigation view of the program, and deciding on the number and disposition of the core screens from which all others will be derived, placing them, and beginning the development of the trees which will grow in parallel into the program.
(3) making the template(s) — colour codes, fonts, tables, graphic images which will be consistent throughout (this need not be done first)
(4) listing the screens as files and deciding on their content / topics

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(5) grouping them hierarchically
(6) moulding the two-dimensional list into a solid form with hyperlinks, banners, menus, navigation systems
(7) beginning on a long process of manipulation.

The Mark II version of *English for Everyone* will include

- a new design template
- a bigger exercise and practical component
- more specific materials for specialist disciplines and discourses
- more multilingual information and materials
- a workbook, and a user handbook
- a screen printout
- more explicit guidance for students
- teacher and lab assistant guidance — an entirely new section

Some conclusions drawn from making a program are, first, that making programs is best done as a team effort. It requires more than one kind of mind, and the energy of more than one person. Secondly, programs are not just courses put on a computer. They are qualitatively and quantitatively different. *English for Everyone* is not a course, but a *resource*, structured and built as an image or analogue of 'English'. Most current online solutions are in effect digitised courses, and for that reason it is impossible to use them as reference works. They embody the inbuilt ideologies which inevitably accompany linearity. Software programs have the potential to be fully realised constructions which represent analogically all the linguistic systems and subsystems. They differ from courses because in theory they embrace many courses and many conflicting or supplementary approaches, so long as the navigation system through the whole edifice is clear. Courses can be selected from within one software program, for many different specific purposes and to fit many different disciplines, and to satisfy different needs. Programs need also not reinforce a first language or second language binary. They can allow own-pace (asynchronous) learning, and democratic choice. They can also sidestep the political associations

which have dogged second language support. They can provide flexibility. Programs for language support can represent both the linguistic paradigmatic structure of 'English' and the thematic approaches to remediation. A language support program made using systemic functional linguistics might then be visualised as fixing the systemic model as it is in 2001 seen from the perspective of South Africa.

Using a program is easy. Students need only click on what they see on the screen. They can run the program while writing, if they want to follow a process like writing a report, or they can open the program, find out how to use a past participle or what Old English is, and close again.

English for Everyone is innovative because it:

- creates an *organigram* for *English studies*
- uses *systemic functional linguistics* to allow for divergent types of need, beginning from a *core* of needs which are shared among all users of academic English.
- allows for *perceptions* of need as well as for the sorts of need which linguists, lecturers and students might identify
- uses a new and different idea of *interactivity*
- is *user-friendly*
- provides a *complete resource*, which is *extendable* in every direction
- serves *many purposes* — it can be used to solve a single problem, or to follow a process
- is *inexpensive*
- is *flexible* — it can be used for courses or by individuals

When a program is 'finished' — or appears to be finished — there is still a long process to follow. The tasks of test-driving, evaluating, publishing, launching demo web sites, adding links on other web sites, persuading colleagues, managing the use of the program and other programs in a computer lab, all wait. As Chapter 6 shows, the original developers of programs or web materials are not usually the people who eventually benefit from the innovation.

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Program Models

One can make a program which works, without worrying about theoretical aspects of program design. But at the same time, as a new medium, the computer interface invites speculation about how the virtual and real worlds correspond / collide. Just as language or text can be seen through the eyes of functionalists or idealists, linguists or creative writers, so the virtual world can be seen as connected stretches of binary code or bits, their disposition in space only a 'shared hallucination', or as linked sites, disposed in space on analogy with the real world. Many ways have been postulated for modelling or representing or visualising or imaging or mapping or building virtual spaces.

Images for language support are not new. Hutchinson and Waters provide the two commonest: the tree and the map [the 'English language teaching tree' (1987: 17) and the map of the English language support landscape (1987: 49)]. The map is interesting because it already prefigures the evolution of a web-type model to represent mind, language and English for Special Purposes courses:

> First, picture the mind as a network of connections, rather like a road map. The individual houses, towns and villages represent items or bundles of knowledge. These various settlements, however, are only useful if they are connected to the main network by roads. The mind of the learner is like a development agency. It wants to bring the settlements into the network and so develop their potential. To achieve this, communication links must be established....There is no limit to the number of links possible. Indeed the more links a place already has the more it is likely to attract.
>
> Why have we pictured the mind as operating like this?
>
> a) Individual items of knowledge, like the towns, have little significance on their own....
> b) It is the existing network that makes it possible to construct new connections...it is the learner's existing knowledge that makes it possible to acquire new items...
> c) Items of knowledge are not of equal significance. Some items are harder to acquire, but may open up wide possibilities for further learning...

> d) Roads and railways are not built haphazardly. They require planning...
> e) ...If the roadbuilder can see the whole system, the planning and construction of the roads will be a lot easier...
> f)...before anyone builds a road they must have some kind of motivation to do so...
> Hutchinson and Waters (1987: 49-51)

The map, chart of the virtual territory of the land of information, is one of the essential metaphors which make the World Wide Web work. It is not difficult to see the genesis of a dynamic three-dimensional model by extending the local map off the edges at every side — like lines of latitude and longitude this will complete a sphere and make the two-dimensional into a solid figure. Add the concept of evolving change through the dimension of time and the dynamic model is complete.

This extended analogy prefigures program structure and program navigation, the roads and railways the hyperlinks which connect items of knowledge contained on different screens (cities, towns and villages) of the program. Building routes, and using them, are different skills — the one needs an infrastructure, the other a map. This model both discriminates between making and using, teaching and learning, and appropriately links the idea of mapping neural paths in the brain to that of mapping hyperlinked ideas in a program. Ways in which the mind is represented as working, language as evolving, program design and artificial intelligence, are mutually informative.

The idea of mapping has provided metaphors or analogues to represent mind, the acquisition of knowledge and the relationships among systems of knowledge. Web search engines are essentially tools which both create (image) and navigate (make routes through) maps of the World Wide Web. Different search engines represent the map of the Web in different ways, for

different purposes (compare for example, Yahoo or AltaVista with WebBrain). Every program which is read using a web browser can also be represented as a map of the disposition of its contents, and those maps can themselves be integrated into the wider map of related fields on the Web, or of the Web itself.

There are many overlapping ways of representing the same topography, in a palimpsest of maps — of climate, industry, biomes, cultures, languages, population, rainfall — depending on the lenses one looks through. Each represents a system of its own; there are relationships and dependencies among both the parts of a map, and among maps. In *The Online Cyberatlas*, URL http://www.cybergeography.org/atlas Martin Dodge (2000) provides visualisations of three-dimensional mapping and illustrating techniques for the World Wide Web. Conceptualisation of language support through images which can be represented three-dimensionally is, I think, an exciting project which has not yet been explored. This is a new area for multi-disciplinary research spanning design and content and navigability.

I initially (intuitively) imagined E4E, for example, as a three-dimensional transparent sphere composed of many points all over the surface (screens — that is, topics contained in files), joined by many straight lines or paths (hyperlinks — that is explanations or examples), which connect points both round the surface and intersecting through the centre of the sphere (the image was not a conscious design; it arrived spontaneously). My co-writer sees, in the same program, hierarchies among interlinking tree diagrams, and blocks of HTML code. I can also see his view, and he can appreciate mine. Each view is like a register which has its own meaning-creating context and situation.

An architecture for English Studies: Language support consists of systems for the teacher and systems for the learner. Programs also present one view to the maker and another to the user. An English language support software program must enable navigation through both views. A program can cover as much or as little information as one wishes. But if it selects only one field from the whole language map (using field in any of its metonymic senses) it cuts out potential for explanation and for exploration, or movement between systems; it will not use the design potential of the hyperlink, and will exploit only a part of the power and range that is available. Special fields can continually be added as new loops with new links to the core. They may be visualised as new levels of the systemic linguistic systems; as new suburbs on new link roads; or as new types of map superimposed on the existing palimpsest, with corresponding coordinates, or as new trees to be fitted into the navigation plan; or as new wings in an architectural construction, where the plumbing and wiring systems are integrated with the original; or as new chunks of code, some of which is copied and pasted over and over, and some of which is unique...

The act of creating a navigation plan for a language support program provides a feedback effect which reinvents the way one understands English as an academic subject.[4] A structure for English evolves out of the disposing of the screens. Halliday's linguistics has already made the most useful sort of structure. Programs are at one and the same time collections of bits *and* linked sites in hyperspace *and* connected files in a web folder *and* screens placed in relation to each other on a navigation map *and* an image of structure created by hyperlinks. The task of making the program is therefore more than producing a flat hyperlinked list of screens with

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[4] The navigation plan for *English for Everyone* (E4E) is in Appendix 2

back/next navigation. The whole should articulate the systematicity of both program and language. Bits of it should not lean unsupported, or be unreachable, or act as traps with no exit. In essence, design architecture allows users to move from space to space, unlock doors, or be led by the hand or guided unobtrusively, and to easily retrace their steps, or leave. It is the images of design structure such as the landscape map, or the architectural edifice which liberate language support program designers from simply making lists of things to do. Lists are the antithesis of free navigation.

In order to respond to needs, program design still has to *begin* from the list of things which students must know or do, which in turn was derived from what students could not do, the list of 'errors' derived from real student submissions. Despite the web sites and programs which simply answer the list, it is only the first outline for the first blueprint. Linguistically and conceptually each item on the list also functions as part of a system. With reference to the topic of every screen, the question 'what do students have to know or understand *before* they can do this?' may be used to determine sets and subsets, in order to create the systemic relationships which become in the end the language support program, and which, crucially, provide the explanations which lead to understanding as opposed to correction.

Navigation paths move from the known to the unknown. Not all information operates on the same level. Some concepts or kinds of information belong to different categories or paradigms or themes, from others. Some ideas or facts *have* to be known or understood before others can be grasped — some belong to the same set, others belong to parallel sets or to sets one level up or down in the hierarchy of knowledge about 'English'. All of those have to be disentangled and

unpacked before a navigation system works.

The design of the program is the totality of possible navigation systems. Without the algorithm, and the Gantt chart, without Boolean algebra, which are the architectural tools of the World Wide Web, 'English' cannot be represented on the Web.

English language and English literature are subsets of the same system.

The idea that there *has to be* a hierarchy of knowledge, and specifically that English itself is structured in any way, is inimical to most non-linguist English teachers; 'English' is perceived as a loose collection of fuzzy areas, speculation, exploration, subjective concepts, boundaries and frontiers which can be pushed or pulled, tested or broken, according to the will or whim or personal perception of individuals. The concept of 'Englishes' bears with it the concepts of 'other', formerly 'othered', ways of thinking, which the Enlightenment rejected as naïve or marginal. Current perception is that outsider thinking, freed from the Enlightenment straitjacket, has reclaimed the centre, and in doing so has refreshed traditional thinking. The supposedly restraining European boundaries are in fact infinitely extensible, in terms of the themes through which the paradigmatic core can be represented.

Enlightenment thinking in the English empirical tradition, represented now by Karl Popper's falsification theory, tends to be dismissed as Eurocentric and irrelevant by post-colonial and cultural studies thinkers, who have colonised the high ground of English Studies. The Eurocentricity memes has therefore competed successfully in the academic environment *against*

the memes of the age of reason. The gradual extinction of the modernist, liberal, and canonical memes with which the Eurocentric memes competes has a chain of repercussions, weakening *all* memes in the humanities which depend on the laws of logic or science for their survival. This is the gap which Alan Sokal exploited when he published his spoof literary theory article in 1996.[5]

On the other hand, the *same* teachers who in the literature classroom subscribe to the memes of diversity and flexibility, paradoxically list 'errors' and insist on specified processes for writing, and specified methods for teaching writing in the communication or language support classroom. The language support program *can* in fact accommodate both mindsets, that of the path and that of the web, as the CAMESE project writers say they wish it could do (Geslin and Wade 2000: 5), and as hypertext has the power to do.

Confusion stems from the perception that freedom from former restraints, inclusivity as opposed to exclusivity, must mean the death of ordered hierarchy. It may even be interpreted as implying that, for example, genre or period studies or New Critical practices are unacceptable restraints imposed upon English Studies; in fact they all simply belong to subsets of thinking about English, and as such have their place on the appropriate level of the program, corresponding to

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'In May 1996 New York University physicist Alan Sokal revealed that he had tricked the editors of the fashionable academic journal *Social Text* into publishing a sham essay titled 'Transgressing the Boundaries: Toward a Transformative Hermeneutics of Quantum Gravity'. The essay was a parody of postmodernist thought intended to demonstrate how little contemporary theorists and philosophers like Jacques Derrida understand the science they invoke and, at times, criticize. The Sokal Hoax, as the event has come to be called, instigated a scandal both inside and outside the academy that has had an enormous impact on scholarship and is still debated today.' Ian Pitchford, H-NetMultiMedia Listserve.

their place and location in the situations and contexts of the 'real' world. Genre exists by definition. It is not an ideology or theme. Anti-genre is a genre too.

In order to construct a computer program through which students can navigate without having to open every step in turn to find information or to exit, and without reaching information they do not understand because it presupposes understanding of other concepts, information *has* to be *structured* logically, in correspondence with the image or map or blueprint in the mind of the maker of the program. There is no one 'right' image, but there are better and worse ones. Wrong ones are ones where the navigation for users does not work.

Every course or syllabus or program is a structuralist entity. As postmodern chance or random selection subjects variation to the laws of probability, so fractals and chaos are part of a pattern predictable in its whole, even if not for individual entities.[6] English Studies has a shape whether the studier is a post-structuralist or not, and programs have functional design. Design is limited by the possible — that is, by what works. The software used to make a learning program imposes design which of necessity shapes both language theory and perceived needs. Good program design allows function to continually call up and adjust responses — a 'less demanding' way of programming than creating a master-plan which tries to allow for all possibilities (Gerrans 1999: 27 Aug.). Computer design may be initially be followed up in Horton, J., Ellis D. and Black, P. (1990), but this is a rapidly expanding and mutating area, and it is impossible here to provide an authoritative account. The new intellectual vision brought about by the

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If you are interested in chaos theory, read Nina Hall (ed.) *The New Scientist Guide to Chaos*, John Griffin *Schrödinger's Cat*, Marshall and Zohar *Who's Afraid of Schrödinger's Cat?* Roger Penrose *The Emperor's New Mind*, and *The Large, The Small And The Human Mind.*

'digital revolution' is the 21st century equivalent of the invention of perspective in painting (Johnson 1997: 214).

So, what shape *is* English? To make a software program, function moves up front, because the functional problems which have to be solved step by step are unfamiliar. They must be solved, or the program will not work. The same functional problems come into play when writing a poem or a novel, but the memes of functionality are invisible except to those who have tried to write one. Johnson (1997: 145) claims that 'the translation of text into digital form can produce extraordinary — and unpredictable — secondary effects'. The shape of English in a program is probably best expressed as 'the shape which works', is navigable. Navigation has to be intuitive to the average user of the program; what learners need has to be accessible to them, without their knowing anything of the metalinguistic description or analysis of their needs. Users who bring to the program highly personalised taxonomic expectations need to be able to find what they want within their own paradigms — or even blinkers — as do those who approach it both from the perspective of National Curriculum Englishes, and from its opposers.[7]

> Who should be at the controls of the CALL process? Should the teacher determine the path which the learner *must* take, or was this an opportunity to introduce an electronic dimension to *learner-directed* education?
>
> Last (1992: 231)

[My emphasis]. Choice is of the essence in systemic functional linguistics; it is also of the essence in tertiary education where students are clients paying for a service which should be delivered, and which should provide them with a marketable commodity, or in any education

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7 A lucid article which unpacks conflicting concepts within the National Curriculum Englishes documents is Homer (1998: 121-128).

system which accepts that students are adults and that they can interactively diagnose their own learning needs.

Last (1992: 232-3) said that programs 'should not be too complex', because they are labour-intensive to make, and the maker(s) should bear in mind the ratio of cost-effectiveness to usefulness. It is possible now however to create extremely complex programs with clear useable user-friendly interfaces.

The role of metaphors and analogues in language support.

It is perhaps interesting to draw attention to some useful, and less useful, metaphors by which we think, teach, create courses or make programs. Pedagogical disagreements sometimes grow from allegiances to conflicting metaphors (Sutton 1992: 113-4). Metaphors influence how we think about what we teach. One of the commonest and most enduring has been the metaphor of life or education as a journey (perpetuated in the latest memes — life-long learning) which carries with it a range of unquestioned assumptions. Journeys go from A to B — they are *linear*, and the straighter the line the better. B is a *goal* or end point. It represents an *advance* on A. Those who have reached B are *better* than those who have not. Those who have not have therefore *failed* in some way. The very concept of A to B builds in the concept of succeeding or failing. The association of journeys with the journey of life towards the goal of heaven, brings a *moral* element into education, the association of work and success with virtue and reward. John Bunyan's *Pilgrim's Progress* is a prototype which recurs through and through English literature and education. Straight lines presuppose their opposite — diversions — which do not take learners from A to B. Learning is focussed upon tasks which are goal-directed, and

diversions are for relaxation, if there is time, and not an integral part of the process. 'Exploration', it is said, may divert students from the purposes to which to the lecturer wishes to direct them. But without exploration, the magic of the virtual world is lost.

The growth of the Internet and the World Wide Web coincided with the new mindsets of team work, group work, cooperation and networking, consultation and positive and negative feedback, self-sustaining systems, intertextuality. Weblike metaphors for narrative, language and learning and human relationships have a long history, from the classical 'voice of the shuttle'[8], to the modernist notion of form as 'the pattern in the carpet', to Jean Aitchison's 1996 Reith Lectures *The Language Web*. All of those images, however, are essentially two-dimensional or flat.

Some language support teachers fear the open-ended web of the software program — if students explore they will get lost (CAMESE 2000: 5). Good programs are not mazes, in which students will get lost, or oceans, over which they will carelessly surf. Program designers design both what may look like a maze, and the routes through the maze, at one and the same time. There are fuzzy areas, subjective concepts, boundaries and frontiers which can be pushed or pulled, tested or broken; the current memes of English studies encourage academics to *contest* boundaries and hierarchies, and to look for free associations and fluid movements among areas of interest. But the ball of string tied to the starting point, the core, is always there, in the shape of navigation menus which show

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8 The story of Philomela, who when she was raped by Tereus swore not to be silent. Tereus cut out her tongue, so she wove her story into a tapestry on her loom. The Voice of the Shuttle forms a vibrant metaphor for the website of the University of California Santa Barbara, where pages are 'woven' into an intricate tapestry at http://vos.ucsb.edu/shuttle/

- where the user is
- where the user has just been
- where the user can go next
- how to get home
- how to get out
- how to choose a completely new path

The three dimensional web provides a metaphor by means of which one can immediately see that there are many goals and many routes, organised in such a way that students can choose for themselves useful routes, at different levels and in different linked areas of the field they are interested in. In this sense of analysing their own needs and choosing for themselves, interactivity is built in to the new medium. This is how *English for Everyone* works.

Ways of imaging language is an interesting subject of study. Since language is a representation of social 'reality', ways of interpreting language, in exegesis, grammar texts, language courses or language software reflect cultural assumptions. Ideological images which lie behind language study and language teaching are often borrowed from contemporary technologies or cosmologies. For example, to oversimplify radically, pre-Newtonian thinking can be represented by a system for which the astrolabe is a metaphor. The concentric orbits of the planets represented at one and the same time the empirically observed courses of the planets, and their roles in relation to astrological and philosophical interpretations of human destiny, of which language is an analogue. The eighth or outermost sphere (level) gave meaning to all the others. It was an abstract, Platonic heaven where existed the ideal Forms of which the objects of the world of sense experience were only representations[9]. Words or names stood for both objects experienced

9 Read for example Chaucer's *Translation of Boethius* or *Boece*, and his *Treatise on the Astrolabe* in Benson, L.D. (ed.)1987 *The Riverside Chaucer* Oxford:Oxford University Press, pp.395- 470 and 661- 684.

on earth and for their moral, allegorical and tropological ('real') counterparts in the realm of the Ideal. So one word or one situation bore meaning at various levels of abstraction. This cosmology provided the linguistic system which enabled the meaning-layers of allegorical exegesis. It still survives in the notion of Language as a perfect system, perpetuating the Nominalist / Realist debate which divided the early Middle Ages.

The Newtonian universe, which evolved from the British Nominalist (empiricist) position, worked like clockwork; this part moves the next part, which transfers motion to the next part, step by step. The clock as an analogue of the procession of time is also an analogue of the algorithm, and of logical reasoning. Predictions in the realm of sense experience could be made on the basis of other events on the same plane. Explanations were no longer (or not solely) in terms of an Ideal realm which gave meaning to the world of sense experience, but in terms of cause and effect. In this scientific discourse, God is less the force which gives breath and therefore meaning to everything, but the maker and winder of the clock. The interpretation of how language works consequently changed from mystical to algorithmic. Text proceeded from premises to conclusions. In tune with this universe is the growth of science writing in an empirical tradition. Meaning is the sum of the premises. The meaning of a word is defined by the surrounding context, which in turn has to be accurate. This view still informs the academic essay and report.

The common man's vision of Einstein's universe is enabled by the famous example of the stationary observer and the two observed trains travelling at different speeds in opposite directions; three different systems interact within a larger system. This provides a dynamic image

where explanations are relative to other explanations. Chaos theory and fuzzy logic provide us with metaphors[10] for order within apparent disorder, order where neural networks pick up connections subliminally at such speed that we are unaware that they are there, connections which may not overtly make sense to us. These take us into the realms of dynamic three-dimensional complex systems. Language is a complex system, an analogue of our complex experience. The multiplicity of experienced language can either be interpreted as being generated by a deeper kind of order (Chomsky), or as a system of choices which evolves and redefines itself constantly as time passes and in different places, in response to different social and cultural needs (Malinowski, Firth and Halliday).

Malinowski's anthropological research (1923) associated language with culture, and suggested the untranslatability of the texts of one culture into the language of another. Learning the grammar is not enough; to 'understand', one has to 'live the life' as well: the beginning of the distinction between competence and performance. The logical conclusion was the abandoning of 'grammar' in the seventies, and the integration of language support with mainstream courses. This approach has conflicted with the cultural belief that knowledge should be 'handed on' like the Olympic flame. The over-determined nature of outcomes-based education leads to comparison with the film 'The Matrix': information is slotted into brains like sound or graphics cards, and for purposes of equity (and control?) all brains must have the same information. Linguistically sophisticated courses can be shot down with one arrow by administrators who flourish the words 'integrated' or 'multidisciplinary', with their overtones of liberation from pre-

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10 Metaphors, because the images stand for mathematic realities which cannot be directly experienced.

1994 'authority'.

Language support has been informed by other, less systemic, metaphors; for example, sporting notions produce language 'drill' and 'total immersion', and Romantic education theories (Rousseau) produced the child as a 'clean slate' waiting to be inscribed with knowledge. Higgins (1999) provides an online account:

> The next stage ('80s to early '90s) is communicative CALL, in which CALL activities are designed to make learners communicate with each other and work with meaningful texts. This includes most of the games activities and simulations that emerged at that time. Finally they label as integrative CALL all uses of networks for email, web searches, chat, MOOs, in other words, real communication...
> All of these classifications ...[try] to impose some system on diversity. None of them is perfect; any of them might have relevance to some point you might want to make.
> http://www.stir.ac.uk/celt/CALL99/CALclass.htm

He notes an important point, which is that different visions of language, and therefore of language support, are not progressions towards the perfect system, but may each be viable in different situations or at different times.

Architectural images appear more and more frequently in texts and on the World Wide Web as metonyms, taking on the functions that were once filled by the organigram, with the enhancement that they represent the construction of a system (or systems), all of the parts of which support other parts. Architectural images are favoured both by Internet theorists (Minoli and Schmidt, 1999) and language teachers[11]. Images of classical façades in particular represent

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[11] Architecture is itself a metaphor for interlocking or articulated systems and subsystems, each with its own structure, each in itself an analogue for a view of 'reality' (a life-style) and each structure within which can be represented analogically with diagrams, maps, charts, organigrams, and so on.

immediately intuitive images for structure, because we recognise the supportive functions of the parts — foundations, base, pillars and pediment. This image is used to represent the cognitive aspects of language support by Deacon, Walton and Wilson of the Multimedia Education Group at UCT, http://www.meg.uct.ac.za/olwritng.htm :

> An important part of our content design process consisted of designing a visual metaphor which would help students to conceptualise these abstract concepts. We settled on a visual metaphor which equates the parts of an essay's logical structure (argument, supporting evidence and referencing) to the parts of a classical façade. The classical façade was chosen because it allowed us to illustrate the architectural phenomena of structure and support clearly and simply. 'Argument as a building' is a common metaphor by which people understand evidence as providing architectural 'support' for academic arguments, without which the arguments 'collapse'. In addition, the façade resembles many academic buildings, both at UCT and UWC, which students consequently associate with academic endeavour.
>
> (Deacon, Walton and Wilson 1997: n.p)

This is the first image provided to help students, as opposed to defining the role of the lecturer. It is attractive as a way of helping them to visualise academic writing. On the one hand it brings with it an almost formalist conception of language as edifice, with concomitant notions of academic language as imposing, and composed of logically placed pre-formed bits. But on the other, it is probable that it is a useful catalyst to academic performance. Although it may at first glance seem to be a long way from Jean Aitchison's language web, and even further from a three-dimensional model of hypertext design, the writers include the following comment by Laurel on design :

> [The computer's] interesting potential lay not in its ability to perform calculations but in its capacity to *represent action in which humans could participate.*
>
> Laurel (1991:1)

Deacon, Walton and Wilson move language support into a space where the image presented to students as metaphor for their learning is *different* from the image used by the designers to

inform the creation of the course or program. It is easy to forget that what students learn, and how they are induced to learn it, are two different things. The linguistics needed to produce language support programs is sophisticated even though the knowledge of the students in this field is elementary.[12]

Di Kilpert (1998: 55-60) examines 'texts written by amateur language enthusiasts and professional linguists' to 'discover the conceptual basis for disagreements' between these two groups. She discloses a mismatch between language support course providers (language enthusiasts) and designers (language professionals); non-linguists tend to espouse the architectural metaphor: 'language as the Parthenon', while linguists prefer to engage with organic and natural metaphors, for which the 'purple loosestrife' metaphor is her chosen image. Both of those metaphors can be exploited in all their ramifications — from the need to protect for *posterity* the face of a crumbling but venerable edifice (a *historic, cultural, monument*) to the propensity of *invasive* plants to undermine and crowd out more fragile *native* blooms.

> The two factions are, as Reddy (1993: 166) puts it 'speaking across the chasm of frame conflict. This distance has profound implications for the gap between the professional linguist and the language enthusiast. Metaphors only serve to widen it.
>
> Kilpert (1998: 59)

If we are unaware of the metaphorical nature of the paradigms by which we understand language, mismatches between expectation and delivery in language support are inevitable. If we are unaware, too, of the difference between metaphors for students and users, on the one hand, and metaphors for designers on the other, we fall into the trap of using the discourse of the one to

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12 As Corder (1973) says: 'There is no logical connection between a particular psychological theory of how grammar is learned and any particular theory of language structure...there is, however, an undoubted *historical* connection between them'.

speak to the other.

Learning systems in artificial intelligence at first used, as does Halliday, the model or analogue of the learning child; new information, gained by trial and error and by experience, is continuously incorporated into memory banks, which update themselves through continuous feedback processes. Systems and subsystems inform each other and upgrade each other. A system need not be finite, but open, and can respond to feedback.

Halliday himself, in his most recent writing, seems to avoid allowing himself to become locked into the modes of either complete homogeneity or complete heterogeneity; there is no need to lock in to one mode. Programs allow for this kind of flexibility more readily than courses do. In his introduction to *The Extended Phenotype*, Dawkins says:

> The extended phenotype may not constitute a testable hypothesis in itself, but it so far changes the way we see animals and plants that it may cause us to think of testable hypotheses that we would otherwise never have dreamed of.
>
> Dawkins (1999:2)

The first new concept is that language systems are only closed systems at one specific synchronic instant of time; as soon as a moment of time passes, and the systems become diachronic, they also become open systems, and redefine themselves in interactive relation to each other. The second is that whatever linguistic system one might choose to use as a base on which to create support courses, there is no way to prove that it is 'better' than any other. A system which is dynamic rather than static, and three dimensional rather than linear and goal-directed, inclusive rather than exclusive, engages better with recent kinds of program design which create hyperlinked and carefully structured webs of information, the textual counterpart of a virtual

three-dimensional, evolving learning space.

The evolutionary metaphors introduced by Dawkins to the realm of culture and social behaviour, and by Halliday to the realm of social semiotics are appealing because they introduce for the first time a dynamic, living and changing model for the study of life, culture and language. Language is what we do, in different places and at different times, and the laws of language are contingent upon the network of relationships among all the parts of a self-sustaining system, which responds constantly in terms of feedback to changes in the disposition or construction of its elements. Language is part of human social behaviour, on a continuum with other parts of our behaviour. In a materialist universe it does not stand for or represent our behaviour on some higher level of abstraction. As Halliday says:

> Any account of language which fails to build in the situation as an essential ingredient is likely to be artificial and unrewarding.
>
> (Halliday 1978:29)

Finally, learning and communicating brains can be interpreted as functioning by means of neural networks which criss-cross the landscape of the brain in complex pathways (Christie 2000: 23-33). These networks are analogues of navigation paths though the virtual landscapes of computer programs The happy combination of computing power with evolutionary theory, and mapping, imaging, building, growing or other metaphors provides new ways of looking at brains, language and computer programs, and each field by analogy mutually illuminates processes in the circuitry of the others. Computing power means that recalculation replaces attempts to make completely coherent master programs. Each system can be represented in terms of maps of its *functions*, in

various ways (for example a navigation view such as FrontPage 2000 allows, a Gantt Chart[13] or a dynamic and beautiful image like that used by the new search engine WebBrain.com). This new way of making use of shared attributes of language, computers and brains has features which are 'counterintuitive' (Watts 2000: 36-37); certain actions work and are useful but not readily explainable.

> The computer is a medium! I had always thought of it as a tool, perhaps a vehicle — a much weaker conception....If the personal computer [was] a truly new medium then the very use of it would change the thought patterns of an entire generation.
>
> McLuhan 1996 *Understanding Media,*n.p.

McLuhan was right. The computer does change — not our thought patterns, since they continue on their own evolving path — but our ways of interpreting our thought patterns, and the language with which they are realised. Inspiring Images of interpretations of program design can be seen at the web site of the Atlas of Cyberspace at www.cybergeography.org mentioned on page 176 above. Language support software can only try to keep pace.

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13 A Gantt Chart 'is a horizontal bar chart that graphically displays the time relationships between the different tasks in a project': http://www.sil.org/linguaLinks.

CHAPTER 6

Managing computer learning: towards a poor computer lab.

> *You may think that by now I have left language behind, and am talking simply of social and political issues. But I don't think I have...we have to learn to educate 5 billion children (and that is an applied linguistic task if ever there was one!)...The things which may rule out this possibility...are not just problems for the biologists and the physicists. They are problems for the applied linguistic community as well. I do not suggest for one moment that we hold the key. But we ought to be able to write the instructions for its use.*
> Halliday (1992:91)

Van der Merwe (2000) discusses a 'diffusion of innovations theory' promulgated by Rogers (1995) who observes a pattern in the reception of innovation of any kind. Van der Merwe applies the theory to online teaching, distinguishing between 'innovators' who make a large expenditure of energy at the cutting edge of software design and use, for low returns in promotion or funding, and their colleagues, among whom are 'early adopters', who invest in the process too early to profit by it. Those who profit most from innovation, in terms of career moves, are the 'pragmatists' and their followers, who are not creative and cannily do not buy into the project until they see how it is being received by others. By this point, the 'innovators' will have moved on, unrecognised, to other projects, and the 'early adopters' will have striven to assess the project and make it work.

This principle certainly applies — so far — to the introduction, reception and use of *English for Everyone*. The principles of memetic adaptation outlined in Chapter 1 show their power. The program itself will survive and its use will be propagated *if*, and probably *only if*, it piggybacks on institutionally favoured ideologies and practices. The program has to prove itself 'fit' or 'well adapted to its environment', in competition with established preconceptions and methods, in addition to being, *per se*, a 'good' program. The hidden innovations in the program are

invisible, so that it has to speak to its potential market through the memetic language of publisher's blurb and the medium of the surface paths and interface appearance.

Program specifications for E4E are: resolution : 800 x 600 Hi-colour (16 bit) or better; Win 95 and 486 processor are entry-level. It can be used on Apple Mac or pc. The software can be used at home or on a network. It does not as yet use any anti-copying device or strategy. Site licenses can be purchased initially from the publisher, and from the copyright holders. The software can be used to teach traditional courses by using a slate, or by making overhead slides from screens. It can be used asynchronously by large numbers of students, in conjunction with word processing. Screens can be printed, and parts or the whole can be used as though they were a book, re-created in whatever order the teacher wishes. It makes possible accelerated learning, distance learning, outreach programs, and asynchronous learning. The software has been used in lab conditions by L2 students for two years. It is used at Rhodes University by L1 and L2 students. Feedback from Rhodes has not yet been provided. The only available feedback in 2001 is from my own use of the software with L2 students.

Initial evaluation of *English for Everyone* in 1999 was both external to the institution and internal. External assessment of the program provided a measure of the learning environment in South Africa into which online learning is interpellated, and by which it is judged. Our experience has been that our innovative program, published by a major publisher, was judged, predictably, according to the bench-marks of currently-held meme of language support. Academics who have not looked at E4E or at any other language support software, have suggested that it cannot be 'interactive' or 'integrated' *because* it is a program, making the

assumption that online materials should (and even, in these stringent times, *may*) be made by each institution, and each department, to fit their own needs. This assumption is impractical for many reasons, not least the intensive nature of the creating process, as I hope the foregoing chapters have shown. Another assumption is that formerly black universities have different and special academic needs from formerly white, even though ten years ago the specification of such difference was unacceptable. Other suggestions have been, also without investigating the program, that it needs more 'graphics' to be more 'friendly'. The systematicity of the interface is invisible, and probably requires introductory guidance. An honest assessment, on my own part, of the reception of *English for Everyone* as a language support program, before it was used in the lab, is that it intimidates lecturers, though it does not intimidate L2 students, who are enthusiastic. Colleagues believe both that using it is someone else's problem field, and that English for communication can be taught by anyone. Lecturers at other institutions tell Pearson Higher Education representatives that they are 'going to make their own materials', or that they do not want an 'off the shelf' program.

There is more interest in Australia in the program, where more lecturers are familiar with systemic functional linguistics, probably because M.A.K.Halliday was Professor of Linguistics at Sydney University. The publisher's representatives have not responded to Australian requests for information. Their catalogue entry, which they did not consult us about, travesties the content of the program. Having been through the making process, one can see that the road ahead for new software is a long one, and that many wheels are going to be re-invented. We have now decided (2001) to market Mark II of the program ourselves.

Halliday and Martin noted resistance to change even in terms of courses:

> But as soon as syllabuses are designed, modules framed, teachers impressed and conscripted, there is a vested interest in retaining one course, where the needs and outcomes can be manipulated — often in all honesty — to fit the available materials and frameworks.
>
> Halliday and Martin (1996: xii)

By this point (marketing) in the life of a software program, the 'innovators' will have moved on, unrecognised, to other projects, and the 'early adopters' be striving to evaluate the project and make it work. Pre-evaluation is affected by the preconceptions of academic staff and university management, and is often unhelpful. Post-evaluation reviews the process of initiating online language support, to analyse the successes and failures of specific practice. Post-evaluation therefore follows here.

I must here, of necessity, take a personal approach to the processes of making and introducing, using and managing software for language support, because practising online language support has been a learning experience from which others may benefit. I have, unwittingly, played the roles of all three of Rogers' types, and am now working within the pragmatic part of the cycle, trying to make online language support work, on the ground. *English for Everyone* is innovative. Now, having been through a process as both 'early adopter' and 'pragmatist', I find that managing learning in lab conditions has a positive feedback effect on the processes of innovation and early use, enabling the evolution of a Mark II E4E.

The pragmatic part of making the system work has two disadvantages, however. The first is that although it raises new ideas for revision and improvement, start-up problems and management are time-consuming, and so it is difficult to work on the innovative side of program creation.

The second is that one does not 'profit' from it, except in an altruistic sense.

In order to test-drive E4E, I changed my role, from program collaborator and 'innovator', to 'early adopter'. Now, two years down the line, the pragmatists who have been waiting in the wings are appearing.

Our institution had, in 1998, a potential infrastructure for online learning, in the shape of a lab served by an NT server, set up as long ago as 1992 by private funding raised by the Physics Department for Science Outreach. Some of the pc's in the lab had no more than 8 meg ram. By 1998, they were too old to be useful to computer science or general sciences, and were used only by individual students for their own work. This is where our language students worked from 1998 through 1999.

Between 1998 and 2001 we have used a variety of different systems for online language support. We have now just discarded (2001) the original 30 old pc's, run from an NT server. We use

- 40 Pentium pc's with CDRom drives, which were inherited from Computer Science when they upgraded; they are attached to the central server on the university system
- a new lab with 20 pc's but no cabling [1]

(1) The 30 pc's had one login code common to all. They ran Windows 98 and Microsoft Office 97, originally from the NT server, then with a 'boot image'. They were slow, but not impossible,

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[1] An update on this lab, June 2001, shows that the cabling is still not available, because the university has not honoured its debts with local suppliers, who now refuse to provide materials. The uncertainty caused by the proposed changes in higher education may contribute to the problem.

for new learners who work slowly in any case. They were easily disabled.

(2)The 40 new pc's have a 'ghost' image (using Ghost software) and run several programs including Office, some CIT software, a statistics program, E4E, the *Oxford Advanced Learner's Dictionary*, [not, as yet, the *Oxford Interactive WordpowerDictionary*][2], and they have Internet connection. They are served by the student server. Students are assigned individual login codes and passwords. It is difficult to be assigned enough network space to accommodate the number of login codes we need. We have at present 300. Because these computers are linked to a central system, access can be very slow at some times of the day (+/-20 minutes). Adding software has to be done after hours, and each time the whole image has to be remade. We get round the access problem by allowing students to work in groups of between 2 and 5, and by staggering the practice times so that they do not all log in at once. This practice incidentally reflects the principles of asynchronous learning — another example of practical need driving learning practice.

(3) The cost of cabling for the new lab is 'in dispute', between university management and the installation company. It cannot be used. See footnote 1 above.

(4) We have an office with two computers, used for administration of our project, called 'Writing with Computers'.

(5) We have no printer or copying facility. Project administration materials and learning

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2

I ordered site licenses for the Oxford software in July 2000, received the licenses and software by November 2000, and have (June 2001) now managed to instal the OALD on the network. The Cape Town supplier insisted on advance payment, sent the wrong CDRoms (not network versions), and offered no backup. The *Interactive Wordpower Dictionary* is still not successfully installed. To install either, one needs codes to be personally supplied by the publisher in Oxford to the installer.

materials are printed by me under my 'other hat', using the English department printer, my own pc and a special account number for Project costs. I cannot print students' work. Although I have funding for printers, and campus permission to buy them, there is no linkup between campus accounts and the warehouse, without which 'nothing can be done'.

I manage the project on a voluntary basis, in addition to full-time English department lecturing. This is demanding, but is rewarding for several reasons. It is a way to :

- find out first-hand what the management problems in online language support are
- find out what the software needs are
- find out what the hardware needs are
- overcome obstacles
- use the salary of the former Writing Centre Coordinator to pay teams of student assistants

Next to lack of expertise and technophobia, the main problem which derails online learning is cost. Some universities have fully-funded multi-media departments (Universities of Cape Town and Natal), and some are in the process of creating them (Wits, UNISA). Some plan to begin (University of Port Elizabeth). In each case, university management has made a policy decision, and then found staff and means to implement it. Some universities are investigating (pragmatically, at great cost) intranets and tele-learning systems worldwide before investing. Without institutional backing, computer lab time, workstations, site licenses even for one's own program, lab assistants, and coordinator's time, are prohibitively expensive. Making online language support work is also labour intensive. If assistance is not forthcoming from upper management, who are not generally to be seen as 'early adopters', then one has to have faith and energy, and find ways to solve the cost problems. Language support memes which demand that every department integrate its own support throughout its learning program, disable online

support. This approach endorses uninterrogated memes which do not in fact apply to online learning.

Berthold Brecht wrote an essay called 'Towards a Poor Theatre', in which he pointed out that the practices of European theatre presupposed several unquestioned ideas. Many of those ideas related to the economics of theatre performance: the costs of splendid settings and comfortable opera houses, the concept of the night at the theatre which involved dinner, wine and evening dress, the cost of lavish sets, rich costumes and many performers. It followed that theatre productions served the rich with what the rich wanted to see. He drew attention to the fact that if drama were to perform any sort of social function, then that function was precluded by the generally accepted norms of performance. Beckett's play *Waiting for Godot*, for example, can be performed anywhere, and its bleakly universal message is not undermined by sumptuous settings. This concept of a 'poor theatre' made possible the evolution of African protest theatre out of township drama.

I would like to suggest that similarly one can — and *must* — question the accepted memes of computer language support: the shining lab, the expensive workstations and customised programs, the hidden IT team maintaining an intranet, the computer-literate students from good schools, the lecturers with time for a one-on-one relationship with smiling students who self-access and self-manage their own learning, the university funding for systems and materials for each student, and finally the multi-media materials development team who quietly post HTML lecture support materials on the intranet, manage the internal email system and respond at once to student questions. This system involves further hidden costs: the system which selects the

students, the firewall which protects the specially made HTML materials, the low lecturer-student ratio which allows time for this sort of operation.

Few South African universities have such resources. And having the resources does not guarantee quality in the delivery of learning — though one has to concede that it is better to be over-resourced than under-resourced. In effect, even in highly resourced universities, the quality of online delivery is, so far, dependent upon the initiative and resourcefulness of a very few individuals (Washington University, Seattle, is a case in point: seminar and presentation at the University of Port Elizabeth, 2000).

The expenditure which is most needed is an expenditure of energy, ingenuity, good will, team work and time. So with gratitude to Brecht, and to Darwin, Dawkins and Dennett, we may question the expectations raised in us by advertising and glossy computer magazines and the wired-up learning systems of the first world, and get on with the job of getting our students online.

How does one start? Using programs to teach with is labour intensive, as is making software. Contrary to the expectations which its power raised in the 1980s, the computer does not make life easier, only different. But the difference is qualitative, and worth striving for. Computer language support can be implemented *without* institutional support and/or state-of-the-art facilities. It involves team work among IT departments, student assistants, lecturers, software managers, funders and administrators — and it includes networking to integrate learning methods with the discourses of client subjects, to assess student performance online, and to put in place

models for evaluation of the process and the programs. Evaluation feeds back into both the future development of the process and revision of one's own software and other posted materials.

In 1998-9 we did not have resources to buy site licenses for expensive programs like the *Oxford Advanced Learners' Dictionary*. Our own CD had to have site licenses, to be loaded for multi-users in our own computer lab. I used E4E, adapted materials from the Internet, but decided to begin with Microsoft Word as a generic writing program since it was already on the institutional pc's and therefore free to us. If there are no funds available, but the institution has a computer lab, it may be that time can be booked — in two hours a day, or even two hours a week, quite a large number of students can be helped.

I wrote project proposals and reports on the work of the previous year (1997), and sent 137 requests for funding to business and industry, both local and national, selecting companies which had previously funded language projects, by choosing names and addresses from conference reports where they advertised as sponsors.

Some institutions have departments which deal with corporate funding. Different businesses and industries and municipalities will fund specific items: one may fund materials, or secondary education, another may fund computers, another research. Some may not fund salaries, or may want proof of the sustainability of the project. One can match proposals to the mission statements of the funding arms of companies or institutions. It is also important to comply with the memes or discourses of the day. In 1997, it was necessary to demonstrate that projects would contribute to *transformation*, and that they were *bottom- up, grass-roots* movements. In 1998,

the notions of *outreach*, *community uplift* and *community development* were important. In 1999, projects were best represented as *sustainable*. For 2000, one needed to show that one was producing a *marketable product* in line with *outcomes based education* and that language support was *integrated, interactive, used authentic materials* and was *job-related*. At present, 2001, *professionalism* needs to be combined with a project track record of responsible financial control and audited accounting.

Fund raising is time consuming, and not normally part of a lecturer's job description. We do not have training or experience in this field, or time to spend on proposals and funding and creating resources for projects outside the area of our normal expertise in mainstream English. On the other hand, it is success in fund-raising which has given our online-learning complete autonomy.[3] We are supported by five major corporations; our financial independence makes it possible for us to set up systems which work. I produce project proposals and reports at regular intervals. At the same time, our financial management requires constant vigilance, and entails some conflict with the institution. Because our funds, though earmarked for this project, are held and dispensed centrally by the institution, we have a cash-flow problem. Recording and managing the payment system every month for lab assistants is another time-consuming task. The project has even been faced, for months at a time, with no forthcoming funds to pay lab assistants despite a high credit surplus, because of institutional management's internal problems.

3

We cannot of course use donor funds for the development of *English for Everyone*, which is a commercial product, or for running the language support project for students, which I do on a voluntary basis, since I am employed by the University in the capacity of lecturer in the English department. The University does not contribute to the language support project at all, though morally it ought to provide for a project which is essential and which serves the needs of its students.

In 1999, we spent approximately R3000 per 5 x week course, which came to a total of R12 000 per annum. In 2000, we paid salaries for 20 student assistants, materials, site licenses, conferences, visits, photocopying, phone and printing, and our costs were R50 000. Our projected costs for 2001 are R90 000. We have an income from sponsorships of +/- R200 000 for 2001. Standard Bank has proposed entering into a sustainable relationship with us, which allows us for the first time some security. We are also supported by Billiton, AngloGold Education Trust Fund, Port Elizabeth Municipality and the Caxton Group. Two other companies have promised support for 2002. Our institution does not fund us.

It is essential to have the support of the Information Technology [IT] department. Technical difficulties are *the* major factor which disables online teaching. It is a truism that IT professionals are over-stretched and, at times of urgent need, unavailable. Discussing their first 'not very successful' attempt to integrate their program into mainstream teaching syllabuses, the CAMESE writers (University of Natal), commented that the process was 'bedevilled by technical problems' (Geslin and Wade 2000: 8). Their experience coincides with the experiences of 'unexpected technical and administrative difficulties' reported by the UCT project:

> Botched arrangements for student logins...inefficiencies, illogicality, miscommunication and passing the buck...UCT's support services...seem to be wholly inadequate for a large organisation on the brink of going hi-tech.
>
> Walton and Clark (2000: 6)

It is tempting to imagine that it will be easy to provide online help for students because one is using the 'right' ideology, but opinions about online teaching are only untried hypotheses until one has striven to solve the very real IT, design and management problems, for web sites,

intranets, lab time, supervision, troubleshooting and teaching methods.

Part of my solution to the gap between concept and implementation has been to employ 25 third year and honours students in four teams to help with the project. There are 2 IT teams (computer science and physics students), a team of writing consultants (mostly arts or management students), and a lab teaching team (mixture of computer science and arts students). They are paid R12 per hour, for a maximum of 40 hours per month; they also gain work experience for their cv's. The IT teams are given workshops by a member of the IT department, to whom they are 'apprenticed'; she can also call on them when she needs help. I also provide them with workshops on what language support means, and with instructions and materials.

One needs to create two sets of materials for every course, one for the assistants and for the students who attend the writing lab. The assistants provide lab supervision for the project, according to a timetable, and also teaching assistance. They clean mouses, (re)install software, format disks, check for viruses, enable disabled machines by re-instating icons and removing screen-saver passwords and other bits of mischief that have been set up to thwart the next user, manage the computer disk storage and checking system, manage the lab timetables, allocate logins, store materials, check when students have completed the work of a course and provide certificates, open and lock the lab. Without them the system could not function.

This is not the whole solution. Spares are needed all the time, and machines have to be constantly checked, especially when used by either new users, or worse, by bored CIT students who like to experiment. Institutional politics have to be managed on an ongoing basis, especially

now that our success has attracted other groups to the lab. A working system enables other groups to get started.

In 1998 viruses forced us to close the lab for several weeks. We now provide clean disks free of charge (paid for by the Project), and retain them in the lab, so that they cannot be contaminated; we classify, store and issue disks (catalogued by date, time, and student name for individual users, and by course for groups). We re-use disks each year. When students want to print, they have to book the disks in and out. We now have fewer virus problems, although the other labs on campus are constantly affected.

We are trying to move away from the course mindset, towards true asynchronous learning, by providing materials to be worked through, with assistance, when asked for, from the student assistants. Given that the labs are always fully utilised, the system will therefore always have the same number of users logged on, but they will not all attempt to log on at the same time, at exactly 8.10 or 9.40am. Most institutional systems do not seem to be ready, yet, to accommodate the intensive use which is already required of them. I post tasks in read-only format in a shared folder. Students can access the tasks, save them under their own names, and complete them. In order to complete them, they have to also use E4E and other software.

All of our English Communication course students are (2001) now logged in, and are extraordinarily enthusiastic. Where in 2000 they were compelled to attend the traditional course by our assigning marks for attendance, and marks for up-to-date cardboard files, in 2001 they work on long after the lecture period is finished, and have turned in high quality reports.

B. Jeffery Computer Language Support for Tertiary Students

Language support can be the task of the English department, or of the departments which need the support, or of a separate cross- or trans-disciplinary department or group.[4] The 'Writing with Computers' project grew out of the work of the Writing Centre, but is now moving towards mainstream use in the English department. The Centre began with voluntary writing respondents who as staff members of arts faculty departments (English, Sociology and History) provided a one-to-one consultation service for student writing problems. There are many flaws in such a system. Lack of linguistic knowledge, an *ad hoc* approach, lack of time on the part of lecturers, problems about content of work where lecturers were non-specialists, the impossibility of providing guidance about the process of drafting and editing, and student hopes for a quick fix were only some of the problems. The Centre acquired a full-time coordinator in 1996. I began *English for Everyone* to make materials for the Writing Centre computer, to help students to help themselves. The program took on a life of its own, and collaboration with a colleague became a fruitful association. When the coordinator left, we decided to pay student assistants instead.

Students now accommodated with online language support are

- 'Writing with Computers' students (from all faculties) : 200 per 5-week course, 3 courses a year = 600 a year
- English Communication students : 100 a year
- Business Communication students : 50 groups with 1 user in each.

4

There are several possible models. It has been suggested (Orr 1996:37-42) that the ideal location for language support courses is outside both the client departments and the English department, in a separate department where the language practitioners have dual expertise: linguistics or English *and* science, or history, or social sciences. It has generally been the expected rôle of the English department to provide all language support courses, despite unwillingness and lack of specific training. Gill Sturtridge (1997) suggests that 'the success of a self-access centre lies in the successful management of its introduction into the institution or educational system'.Sturtridge (1997: 68)

Total per year = 700 students

- *English for Everyone* students, in small groups, who learn to access the available software for themselves.

We try to group students according to their discourse needs, and provide materials using Microsoft Word to support them. All students follow the same process however, to achieve core skills. At the same time, almost all of the students we help would not otherwise be computer literate, even on graduation. They voluntarily choose free computer literacy help, and receive English language support by default.

Successful performance in terms of writing and thinking capacity is enhanced by computer literacy (Walton and Clark 1997: 2). Word processing programs are, by definition, designed to support and improve the performance of writers, even though, as Walton and Clark point out (and this parallels our experience):

> students did not make specific connections between the computers and their writing (other than general references to 'typing' and 'communication'). In 1998 we aim to organise the course so that students will connect the experience of using computers to a deepening of their understanding of academic discourse and to a new consciousness of how the computer can be a part of their own writing processes.
>
> Walton and Clark (1997: 13).

It is perhaps useful to emphasise the obvious (because it took two years before I thought of it myself): that in order to run online language support helped by student assistants, using a generic word processing program, one has to provide *double* sets of materials and instructions, one set for the student learners, and a different set for the student lab assistants and consultants. It is not enough to provide the lab assistants with the same handouts as one gives to the students, and expect them to be able to help students. They also need theoretical workshops.

B. Jeffery Computer Language Support for Tertiary Students

- Set 1, for learners, takes students through a task related to their major course needs: for example, the second lesson might contain: how to retrieve their work from the previous lesson, make tables and enter data, write a paragraph summing up what the information means: how to make sure that the paragraph appears at the right point in their reports, how to save their work with a useful file name, in the shared folder.
- Set 2, for lab assistants, tells them to: check login codes: assist with file names: check disk labels: make sure students can retrieve their work from the folder, trouble shoot if they cannot, make sure they save again at the start of this practice period: work through the content assigned to this lesson: know how to help with report format: make sure that 5 minutes before time is up everyone has saved: store the disks in the right boxes, record hardware or software problems...

Each practice time needs a new set of materials. But the materials can be stored and refined.

The program E4E can be used

- in conjunction with MSWord
- for consultation: to provide a course called 'How to use E4E'
- to make separate courses such as 'Report Writing', 'Solve your Own Language Problems', 'Syntax', 'History of English', 'What is Linguistics', 'Planning and Writing', 'Literature and the Canon', 'Editing', 'Layout', 'How to read Poems' — there are series of materials for all of those, and many more, and each provides links to explanatory levels and associated topics.

E4E can be used as a resource for many different specific courses; lecturers can select particular fields or paths or even single screens, and use them to provide integrated writing support in their own courses. It can be used as a resource, along with, for example, *The Oxford Advanced Learners' Dictionary* and *Encarta*. It is important to stress that online language support does not compete with courses such as End-User Computing, or Computer Science and Computer Literacy, particularly since our courses are free. Certificates for short courses should also specify that the achievement is in *writing* with Microsoft Word, not in *using* Microsoft Word.

We do not teach using a typing tutor, although the tutor is available, because practice using it will fill up all the time we have. We teach basic user skills, such as opening and closing work, saving on a disk with a file name, using tools to create clear layouts which enhance the subject the

students are learning. We help students to be aware of the roles played by fonts and layouts in producing 'good English', of the appropriacy or inappropriacy of layout styles and sizes, fonts, planning, research, editing, proof-reading, re-writing using cut and paste, spell- and grammar-checking, spacing, and so forth. We train students that their writing presents themselves, and that care matters.

Students learn extremely quickly in a non-hostile, non-competitive environment, and after 5 hour-long practice lessons, produce competent work and willingly return to practice and extend their knowledge by themselves. Students teach each other naturally. While students prioritise the computer skills they gain, they are in fact enhancing their English and communication skills — the primary objective of the course is not the ostensible objective. The exercises they type use the discourses of their own disciplines, so that they connect the computer with the subject, and also learn by immersion, by helping each other and by being assisted by their peers. Enhancing literacy in the computer lab distances professional English from its association with the old communication course.

This beginning is stage one in a process towards full online language support. We do not use grammar exercises or syntax or cloze exercises, though we show students where to find them in the program. Students learn by doing the work they need to do for their courses. I substitute the spell-checker and grammar checker, editing, proof-reading and peer-assistance, for the traditional idea of 'practice exercises'. In my opinion (and see Collett 1996: 50; Milton 1997: 237; Menck 2000: 224-237) the necessary first steps to language enhancement can be accomplished in this practical way. Good layout and clear thinking and ready resources enhance 'writing', which is,

for me, the same as saying they improve 'English'.

It has been said (Last 1992: 239) that one of the 'dangers' of computer-assisted language learning software is that they divert learners 'away from language *acquisition* into other *skill* areas like learning how to type. Many packages have attempted to overcome the typing bottleneck'. The emphasis is mine, drawing attention to the implicit and unquestioned ranking of 'language acquisition' (a high level activity) over 'typing' (a low level activity); the choice of the word belittles the cognitive aspects of input and layout which go in to writing with computers, and it also sets up a false distinction between form and content. It *is* difficult for students to learn to type for the first time, but do it they must, as all of us have had to. The word 'acquisition' is itself patronising. At tertiary level students are developing and enhancing, rather than acquiring, special discourses and strategies.

All students need to be computer-literate, and there is a sense in which learners can not be said to be linguistically competent, or competent in English, if they can only present their thoughts on hand-written sheets of paper. The mouse has changed the nature of the problem. In *English for Everyone*, to which students progress in Course 2, any answer is but a click or two away, and the 'typing bottleneck' no longer exists.

Test-driving *English for Everyone* showed that I had made assumptions about the intuitive nature of how to use the program, and about how students would apply the program to their work. Before most novice students can use the software, they in fact have to be *helped* to

- maximise and minimise windows, or use the window menu: so that they can move from their word-processing document to *English for Everyone*, consult E4E, and move back.

- use the Window menu to select from among open files, to move freely from one to another, and to copy and paste from one to another.
- access E4E.
- use Internet Explorer toolbars and commands
- understand special vocabulary and concepts: browser, web site, menu, navigation, URL, www, http://
- understand E4E menus, navigation and icons
- navigate through the program and understand the shape (map) of the program
- use the program to find answers to questions.
- work in groups (this alone needs very taut management)

Students had to be taught things which I took for granted; for example some expected to be able to type within the *English for Everyone* program (this option is not available on Mark I), and they confused 'home' within *English for Everyone* with 'home' for Internet Explorer or Netscape Navigator. The first group of L2 students struggled initially to understand the function of *English for Everyone* as a resource. The assumption I made in making the program, and in introducing it to colleagues and students, that the use of *English for Everyone* itself is self-evident and intuitive, was shaken by the frequency of uncomprehending responses. Introductory help and tutorials are important. On the other hand the student assistants grasp intuitively how to use the program, and use it for themselves with enthusiasm.

A positive development which has grown over the first three years is that I have now evolved an infrastructure to teach computer language support on various levels from simple layout and editing processes, to the core academic needs of all tertiary disciplines and finally to exploration of other systems of language, discourse-specific and resource-based, integrated with disciplines and interactive in most of the expected senses of the word. My colleague has to be thanked for his work in producing the computing innovations which make possible the interactive and integrated components.

B. Jeffery Computer Language Support for Tertiary Students

We now use a shared folder on the internal network, where students with specific login codes will be able to use materials posted in the folder which I can also access and edit. I teach communication students in this way; the lab assistants manage the support of resources by their presence in the lab. A second group of communication students, selected alphabetically before this part of the project became possible, and assigned to another lecturer, continue to be taught by him in the traditional way and so act as a control group. The computer science department is interested in this and in distance learning, and potentially fruitful cooperation is possible for the future.

The assistants teach by doing, not by lecturing; their role is facilitative, not authoritative. Our teaching style has been allowed to *evolve* in response to student attitudes to the courses and also to the maturing of the assistants. Although I provided workshops and instruction for assistants, they evolved a group ethos and bonding of their own about what they were doing and why they were doing it. This phenomenon also occurs in the learning processes of L2 students in English literature, particularly in second and third years; students reproduce not what they have learned in lectures or from learned articles or even set texts, but what they have made of those resources while studying in groups. A shared perception of 'what the English department looks for' carries more weight in the study group than individual readings. Facts themselves get lost. The result is a statistically improbable resemblance among answers from up to one hundred students, when the materials provided in lectures have been diverse and wide-ranging, and when the questions asked have not been predictable.

This phenomenon has reappeared in the lab, but in contrast, in this new situation it can be

exploited to the advantage of all of the participants. Assistants pay lip service to my 'English' and systemic functional linguistics workshops, but persist in perceiving the courses primarily as computer literacy or end-user computing, as do the learners. They also persist in teaching 'unpacking the topic' and 'topic sentences' and other *passé* memes of language support, despite my overtly systemic approach. They are fully convinced that some words (*nice*, *very*) are just 'bad English'. I accept this, and take a secondary role, imparting ideas about the integrating of content with layout to individual learners as I assist them personally. I do this because my *apparently secondary* role in the process of teaching and learning is, I suspect, central to the success of the system. My role is not in fact a secondary one, but a primary one, because the materials, the software, the infrastructure and course direction are provided by me, from behind as it were. I suspect that what students *perceive* themselves to be doing when writing is as important as what they *do*. When students produce competent work, and make use of resources, I have no objective means (and as Halliday says, there is no need) to determine whether or not an abstract process of 'understanding' has also taken place.

One major revelation — for me— has been in relation to multilingualism in the lab. Lab assistants teach in the language they feel most at home, or the language the learners initiate with. Code-switching is seamless. Teaching is on a one-on-one basis. I make no comment either about the appropriacy of English or of a multilingual environment in the lab. If I have announcements I wish to be made to the class as a whole, then the student who makes the announcement (never myself) most frequently uses Xhosa. The language selection is their own.[5] When I *asked* the

[5] The assistants are 23 male, 2 female, both in the computer lab and in the writing centre. I do not know why women have not volunteered to assist, and have not succeeded in finding an

same assistants in a workshop what language they wish to teach and learn in, they were adamant that English, and only English, is appropriate. They then continued to use Xhosa in the lab. Students help and teach each other unselfconsciously. Materials are in English, students write (mostly) in English[6], but converse with lab assistants and with each other is in Xhosa, with seamless code switching. This is an area in which research might be interesting. In 2001 some teaching will I hope be tape-recorded for further research.

The needs of L1 and L2 students in the courses differ in degree rather than qualitatively. All students need to acquire professional skills and develop the vocabulary and technicalities of their specific discourses, but some more than others. First language computer-sophisticates are just as innocent of editing and layout, format and structuring techniques as are their disadvantaged peers. Computer literate students also tend to reproduce information from the web without digestion or editing or even thought, replacing understanding with layout and microsoft clips. Computer support offers the amount of back-up students choose to seek, or are advised to seek, for themselves; asynchronous courses allow us to match teaching to the stage at which individual students perform.

Another interesting development is in spin-off projects, initiated by student assistants. They

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explanation. Of online learners, the sexes are evenly divided, and learning progress is equally fast.

6 I have been surprised to find students who have completed their tasks filling in time by writing in Xhosa with extreme absorption: poems, autobiography, church notices, prayers, and in one instance an account of a dream by a female students who was in training as an inyanga in Xhosa. They always select capitals (caps lock).

have visited other universities — Rhodes, Fort Hare, University of Port Elizabeth, and the Port Elizabeth Technicon (September and October 2000). They have initiated relationships with those institutions, without my intervention, and plan exchanges of information and personnel. They have begun schools outreach workshops, also without my intervention. The assistants are writing a group project article on their learning experiences to date, which I hope they will be able to publish. They have also initiated a Saturday School for matric students in local schools. The practice of language support is moving towards a concept of shared tools, resources, skills and support. We see ourselves now as instruments to send students *out*, equipped with skills which can spread.

But although in theory new technology might seem to offer the potential for rural outreach programs and a capacity for distance education as an immediate consequence of technological innovations in the lab on campus, in practice the dream of computers-in-the-rural-areas is unrealistic. Security, manpower, sustainability and technology are all against it. Students and schools will have to come to the centre to learn.

A corollary of online learning is the expectation among lecturers that it will provide online assessment as part of the package. *Assessment* and *interactivity* are used as though synonymous, and the genuinely interactive learning aspect of online learning — using software asynchronously, diagnosing one's own needs, self-access learning and exploration — is rarely noted. Assessing prior learning is not the same as teaching. Computers cannot yet respond intelligently to student input. Artificial intelligence can provide 'intelligent' programs to solve one particular problem. It is not possible to program responses to the quality of continuous

prose, or grammar-checkers would be more sophisticated than they are. Online assessment is of necessity pre-programmed and simplistic, involving closed, not open questions, and simple tasks. This is clearly not a valuable pedagogic procedure for tertiary language assessment, although it is invariably used to assess the level of 'interactivity' of a program. It *can* be used to provide students themselves with a measure of self-assessment, however, or to assess prior learning.

Assessment online needs to be scrambled or randomised, if students are not to learn the correct results very quickly. Test templates may perhaps be better than set tests. Assessment of students in support *courses* has also been problematic. Assessment presupposes correction, that is, telling students that they are wrong, rather than providing the means to allow students to diagnose their own problems (Parkerson 2000:118; Naidoo, Langenhoven and Felix, 2000). Courses do not justify their levels of interactivity. The success or failure of support courses could in part be determined subjectively: by whether teachers taught such courses willingly or as conscripts, whether students attended willingly or as conscripts, and whether any improvement of 'language use' could be noticed in the mainstream disciplines which support courses supported.[7] 'Improvement' itself is a subjective term. It cannot be easily measured by performance (marks), because marking of 'English' is subjective, even with a marking grid. If the course is perceived by students to be too easy, or to be aimed at students from disadvantaged backgrounds, the

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7 I am using the word support course at this point to refer to both special purposes courses and modules designed to improve language skills, whether integrated with mainstream courses or not, and whether taught by English lecturers or not. The term does not here refer to foundation or bridging courses, which I understand to include wider issues of university adjustment and preparedness and not simply language issues.

course itself may even be the *cause* of failure. I would like to suggest that improvement correlates with whether students are motivated (attend without threats or penalties), seem to know what they are doing and why they are doing it, hand in work which is laid out proficiently and clearly (not just 'coloured in'), cover the ground work of the course, use referencing and editing techniques, use the library, and so on. This is an oblique way of defining language improvement, based on the negative observation that support courses which teach grammar or syntax or 'language'[8] to mass conscript audiences have on the terms above not been successful.

There are several ways to test factual learning about English online. Two major assessment procedures, the TOEFL system (American) and IELTS (British), are sophisticated, and both try to incorporate checks and balances to compensate for culture-bound usage and to allow cognitive and linguistic ability to emerge. Assessment in online language support can be made on the basis of the final work produced by students from disks which have never left the lab. If students *complete* the work of the course, *and* print a professionally laid out task (hidden commands are taken into account), they receive a certificate of competence. There is no test. Not completing the course is equivalent to not passing the course. True assessment takes place in the supported discipline.

L2 proficiency in this area can be equated with performing the task well. The distinction

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[8] I am using the word language here as a non-technical term, to refer to the layman's differentiation between overt teaching of the surface structures of texts and of techniques of 'writing', and the teaching of the content of texts (literature).

between competence and performance becomes a matter of semantics. The mathematician Roger Penrose suggests the same approach to understanding as a systemic functional linguist: 'Understanding has as much to do with patterns as with individual words' (1989: 24). Students who use clear layout techniques, and perform spelling and grammar checks and low-level editing, pass. At this stage, clear layout is taken as an indicator of planning and conceptualisation. Headings and numbering will make sense and the work will form a coherent and cohesive whole. Disconnected headings and absence of coherence / cohesion indicators (numbering systems, conjunctions and adverbs) indicate absence of planning and structure; it is usually the case that editing and proof-reading are then also inadequate. Peer evaluation and group projects, where the competence of each participant affects the final evaluation of the project, also enable acceptable performance.

Cognition is more difficult to assess. Intelligent use of headings and numbering systems, abstracts which really do sum up the whole work, conclusions which have been thought about, and so on, are indicators or markers of cognitive understanding *of the task in hand.* It would be unfair to read those specifics as also analogues of the intellectual ability of the student. If the correspondence were so simplistic, IQ testing would be easy.

> Once novice writers demonstrate their willingness to engage with their writing at 'the idea level, not the word level' (Kellogg 1993: 10) then they have crossed the divide between the lower order and the higher order thinking skills.
>
> Naidoo *et al.* (2000 Conference paper)

The division between 'lower' and 'higher order' thinking skills is chimeric: the word level is the manifestation of the idea level. Naidoo *et al.*, the designers of ADAM, a writing 'self-assessment tool', are rightly quite clear that they wish to devolve responsibility for assessment from the

authority-figure to the learner. How, is still not fully answered. For further discussion of assessment and feedback methods see Parkerson (2000: 118) and Sue Starfield (2000: 102), both of whom argue for flexibility, and for providing students with opportunities for self - improvement and self-diagnosis. Alderson, Clapham and Wall (1995) provide a thorough analysis of language test construction and evaluation. When students decide for themselves what sort of help or support they need at any given point, they are in effect assessing *interactively* their own learning progress. E4E also tries to enable self-assessment.

> Evaluation is undergoing changes...away from psychometric testing and into educational assessment (Gipps,C. 1994 *Beyond Testing* London: The Falmer Press)...Learning and Teaching are no longer viewed as two separate processes, but as an interactive process. Assessment functions as a link between learning and teaching. Formative assessment is ongoing feedback during the learning process, whereas summative assessment summarises the process at the end. Hence assessment of learning is...an ongoing process from the very beginning of the course....Thus testing is only one instrument out of several (including portfolio assessment, exhibitions, performances, group projects, self- and peer-assessment, etc.)
>
> Smith (1999: 220)

Smith also draws attention, when measuring second language performance, to the 'strong' and 'weak' senses of 'performance tasks'. She asks for

> a distinction between an emphasis on the completion of the vocational task in real life of which language is a means, and the emphasis on the quality of the language used, the linguistic side of the task. In the former there is a variety of professional and personal variables to be taken into consideration, whereas in the latter, the isolated language performance is being judged. The strong and the weak sense of performance tasks is a major issue in ESP testing for vocational placement and certification.
>
> *Ib.*(1999: 222)

On balance I prefer testing which evaluates knowledge of *how to* do things. In place of language practice, I prefer practical actions like peer correction, using spellcheckers and other tools, for example Hurford's useful *Students' Handbook of English Grammar*, and various web sites (for example John Eastwood's 'Grammar Forum' at URL http://www.oup.co.uk/elt) to help with immediate grammar needs, and students might rather be shown how to consult them than taught

the basics of linguistics. We should also agree about the standard and kind of English which is being tested or assessed as one of the goals of the course. Decisions have to be made (and our methodology has to be accordingly adapted), about whether we want our language support courses to produce

- second language writers and speakers who appear to be of first language standard?
- students who are not spontaneously perfect speakers and writers of English but who know how to follow a process to achieve competence in specific projects, by consulting, team work, using the best tools and technological aids.

Uncertainty and ambivalence about standards has repercussions both below tertiary level, in schools, and above, in academic publishing, journalism and other formal written English contexts.

There are online assessment methods in operation. Daly (1997) for example, produced 'an interactive learning environment' called RoboProf :

> a program that attempts to encourage and monitor a student's progress throughout a course. Progress is controlled by dynamically generated online tests.
>
> Daly (1997: 1)

Daly suggests that students are encouraged and motivated by assessment. His program allows student users to select only tests available to each, based on previous performance. It is manifestly more difficult, however, to apply this system usefully to discursive subjects like English than to Daly's field of computer science, as Alderson *et. al* make very clear.

Evaluation of Courses 1998-2001 at Vista University

Because online learning is new and exciting, it is tempting to believe that it must therefore be best:

> In a recent end of semester survey, 90% of the students...reported that they preferred a course taught using the web to one using print sources. Certainly, student satisfaction is not the same as student learning,but such resounding endorsements are difficult to ignore altogether.
>
> Kelly (2000: 3)

Walton and Clark (2000: 4) note the temptation to 'computerise the entire EAP curriculum', and they suggest that a corollary to the syndrome is a new binary between the programmers and the programmed, the knowledge receivers and the knowledge providers. There will surely always be this binaric division.

It is perhaps too soon to expect genuine assessment of computer programs for language support in South Africa. Walton and Clark (2000) also provide a useful online discussion of procedures for educational courseware evaluations:

> Evaluation... is critical both for good design and development and for directing modifications to projects. In order to show that interactive multimedia can deliver high-quality and cost-effective teaching to students, we wish to have both qualitative and quantitative measures of its impact within courses.
>
> Walton and Clark (2000:1)

The Multimedia department team at UCT have installed an admirably wide evaluation model on a sound theoretical base. Part of the model specifies the testing phase which the Vista courses are at present undergoing:

> Software programs traditionally go through several phases of testing — usually, a period of alpha testing by the programmers themselves and then beta testing by a select group of users.
>
> Walton (2000: 1)

'Formative' evaluations are those which take place as the program develops, 'summative' those which evaluate end-user experience of the program in the classroom. With hindsight, we see that

formative evaluation is important; nevertheless, it was not a practical project for E4E. It is wise to assess needs, canvas support and funding, adapt the product to fit the perceived niche(s), and introduce it for feedback to stake-holders before embarking on the creative process of making a language support program. This process is being followed for tUNEup, the program from academic development at the University of New England, Australia. They have however barely begun, and have ignored E4E in their calculations. In our case inspiration followed by the creative process *preceded* the practical affair of needs analysis, testing, evaluating or selling the product; indeed, it was so exciting that work began the next day and continued for two years, with a final spurt as publication became certain. The syndrome is apparently a common one:

> I had been so intent on the creation of my site, posting my online syllabi, scanning and marking up texts, inserting useful URLs into assignments — in other words, focussed entirely on changing my pedagogy — that I had given little thought to what these changes meant for my students' learning. Badly afflicted with FDS (Field of Dreams syndrome— "if you build it, they will come"), I had lost sight of one of the most essential goals of the teacher, namely, designing my courses in ways that improved student understanding, rather than making the course simply more interesting, fun, or easier to teach.
>
> Kelly (2000: 3)

We did not market or promote the program ourselves. It was based on years of traditional teaching experience and research, and was designed both to dovetail with the mainstream teaching needs of a particular institution, and to provide asynchronous, resource-based learning for tertiary students at various levels of language competence. It also made use of the most recent computer technology and screen design methods.

The program was also completed without being demonstrated to colleagues, to protect copyright of the concept. In a field where change is rapid and intellectual property rights difficult to defend, we decided to finish the project and gain copyright before sharing it. It is now clear that

obsolescence will not catch up with this program too quickly, because of its inner complexity and outer simplicity, and its wide range. It is also simply too labour-intensive a job to copy the concept. It is unfortunately easy, however, to copy the product.

In our work on Mark II, we are in a position to evaluate separately different aspects of the project. Again Walton (2000: 2) provides useful guidelines. She outlines 'Instructional Adequacy, Curriculum Adequacy, Cosmetic Adequacy, Technical Adequacy, the Adequacy of the development process' as areas which require separate evaluation. She mentions the 'Adequacy Chart' provided by Cronje at http://hagar.up.ac.za/catts/learner/eel/Conc/conceot.htm. This chart is more readily applicable to online materials posted for different courses than to a large program like E4E where structure is its strength.

Sturtridge (1997: 68) suggests that online language support succeeds or fails on the strength of the following ideas:

- there is a need for development programmes to help teachers become aware of their new role as facilitators when working in the centre; teachers need to be trained to *stop teaching* students
- learners must be helped to consider their own working styles and strategies and to relate these to the work they are doing.
- centres are accepted or rejected by learners on the relevance of the materials they have on offer
- different cultural backgrounds...foster different strengths and weaknesses in learners...Ignoring traditional learning styles completely can make learners feel ill at ease. One example of this would be not making allowance for learners to work in groups in a country where learners work well together but feel threatened when working alone.
- there is a need to provide for 'the student explorer'as well as 'the student practicer' ...the self-access centre which provides only language *practice* is one where the materials are largely graded grammar exercises

It is clear that her conclusions, in an environment different from ours, serving different students, for a different purpose, are very similar to ours.

An advantage of a program on CD or CDRom is that tests can be formulated in the program in such a way that learners can be directed to further information or to exploration in *response* to their test answers. In other words, the program is learning process, assessment site *and* resource. Tests produced internally by institutions using their own materials on intranets, on the other hand, can only have this advantage if the lecturer concerned is prepared to do the work.

Lwanga-Lumu (1998:126-7), in an article full of archived 'memes', which purports to discuss the present state of the art, makes exorbitant claims for and assumptions about online support and assessment, betraying incomprehension, and also lack of awareness that materials written in 1989 and 1990 will no longer be relevant. She says :

> Furthermore, Butler (1990.iii) states that unlike human beings, the computer does not suffer from fatigue, boredom or lapses of memory. The computer and its secondary storage devices can hold large amounts of data whereas the minds of human beings have much humbler capacities. The computer therefore gains, to a certain extent, over the human language teacher in its extremely high speed of operations, its relentless accuracy and its huge capacity for storing information.
> Furthermore, the computer can easily generate learner-centred, self-pacing activity and the proportion of teacher-led to learner-controlled activity can change. Above all, the computer offers choice: programs can be called up by the adult learner at will, so that he can assume mastery of his own language learning experience....
> Wyatt (1982:4) has summarised the following advantages of computerisation: interactive learning, with the student receiving immediate feedback on answers; highly individualised instruction, with the shape of the lesson adapting automatically to the student's demonstrated ability so far....computers... have an interactiveness which gives them occasional value as makeshift teacher substitutes...
>
> Lwanga-Lumu (1998: 127)

While attributing superhuman powers to computers, she throws in the word 'easily' as though

the programming were done by the computer and not the programmer. She suggests that 'programs can be called up...at will' — which programs? And which programs provide lessons which 'adapt automatically to the student's demonstrated ability' with 'immediate feedback' which is more than 'right / wrong'?

Another concern which has been expressed is that online learning will dispense with the 'human touch'. The nature of the learning process may change, but fears (Last 1992: 244) that human interaction will be lost are unfounded, because, at least in our experience, the role of the lecturer is more complex and demanding than ever before. The teacher, and two or even three student assistants, have to be physically present in the lab for every lesson. Materials for both students and assistants are needed for every lab period, either posted online or printed. Those who feel that the formal lecture — in some institutions still nearly two hours long — is an expense of effort in a waste of time, may prefer the new medium in order to see students gain a more holistic approach to their own learning and their marketability. Last's discourse is self-revelatory: 'The computer... can never replace humanity. If it does, we are all doomed.' (1992: 244). He wants a 'dedicated, live, human teacher motivating a class of eager learners', as though computer learning is not provided by 'dedicated live human teachers', as if programs write themselves, and workshops and timetables and tuition and lab management do not require much more dedication than turning up to give a two hour monologue and then going home. 'Motivating' and learning are not the same thing, and the word 'doomed' carries with it apocalyptic connotations inappropriate to a professional, inclusive, unemotive view of education. The top 2% of students for whom European universities have traditionally catered will find something for them in language support programs, something less Arnoldian in the sense of loss of a glorious past, and

more practical as a way into the future, than Last believes. The risk of the 'hollow and alienating verbosity' abhorred by Freire (1972: 45) lurks in the lecture hall, not the computer lab.

Results and analysis

I have been criticised by academic development because I did not extend help at first to *all* students; at the same time, academic development, and the education department, are the leaders in the call for 'integrated' learning. Neither has constructed a strategy by which integrated learning, either online or in the lecture hall, can be implemented without major staff redeployment. The innovative structures in place at UCT were applied in 1998 only to Archeology, History and English (Walton 2000: 1). In 2000 and 2001, we *have* accepted *all* comers. This makes integration of the process with specific disciplines more complex, but we are beginning to gather a bank of materials specific to different groups and with the same core learning plan.

The 2001 project provides materials online, as phase 2 of *English for Everyone*, so that discipline-specific testing and practice is now possible. This project has been made possible by innovative and exciting programming by the co-producer of *English for Everyone.*

The only control group up until 2000 was the non-computer-literate students of third-year English in 1999 and 2000, who study the same literature course under the same conditions, with the same lecturers as those who have followed online language support. In 2000, assignments by the newly computer-literate group gave evidence of an over-all increase in thought about planning and stucture, and were also, for the first time, proof-corrected and clear to read. The

atmosphere of enthusiasm which has been evident in the computer courses carried over into the third-year English classroom. The marks were 10% higher than in 1999. This year (2001) communication students have been divided into an online group and a control group.

The courses were **successful** in achieving :

- the ground work for full online language support
- computer literacy for those who had never used a pc
- professional competence in presentation, which in turn enhanced cognitive skills
- report writing skills online, with better data presentation in tables, lists, etc.
- better work in third year English
- upgraded marketability of potential graduates
- faster learning
- work experience for assistants
- financial support for assistants
- independent initiative and resourcefulness by assistants in addition to our program (Workshops, networking, outreach)
- multilingual language support
- research and data by assistants which provides benchmarks for 2002
- work by a group of assistants which may be publishable
- enthusiasm
- bonding

The courses are **unsuccessful**, in that they have not :

- found a formal place or niche in the institutional structure
- involved colleagues, who express willingness to support online learning but 'not yet'
- achieved independence from bureaucratic restrictions of the budget
- propounded their theoretical base, either linguistic or pedagogic, to colleagues.
- exploited their potential as short certificate course money earners, serving local business and institutions

Analysis of results

The learning process disrupted some certainties about language, about teaching and about computer assisted learning processes. In the computer lab, theory met practice with unpredictable consequences. What students, programs and computers 'should' do is not the same as what they actually do. Computers can be time-consuming and troublesome, programs

have gremlins, and students learn much faster than expected. The self-evident status of English becomes less apparent the further from the academy one moves. The process of online support is, in our experience, enormously democratic.

An important result of this learning process is that the firmly held belief that the language of instruction should be the same as the target language has been disrupted. I have allowed student perceptions and student motivation to over-ride theoretical positions, and have allowed the linguistic dynamic in the lab to evolve rather than impose my own preconceived ideas about the necessary role of English as global communicator. One consequence is that I have tentatively reversed linguistic positions I would have sincerely defended two years ago.

I have not managed, yet, to introduce into the courses materials which enhance cognition, although *English for Everyone* encompasses this. The reasons are both practical and logistic. Phase 2 (2002) should increase the scope of the learning we can offer.

CONCLUSION

What...gives language... the facility for constantly adapting...its semantic potential? The answer lies...in its stratal pattern: a language is an orchestration of interrelated levels of semiosis.

Halliday (2000: 229-230)

In his most recent work, quoted above, Halliday sums up more concisely than I have succeeded in doing in this whole project the understanding of the evolving dynamic of the inter-related systems of language, and the relationship between those systems and life itself — 'the human condition'. The power of mental maps such as Halliday's enables the transformation of a holistic vision into its analogue, a holistic program. The virtual world is, after all, an image or surrogate for the real one, in which language and life play equal parts.

It is this kind of conceptual map which the grammar of the hyperlink has made possible, so that a world of phonemes can be transformed into Mitchell's 'City of Bits'. Programs which list things to do, or list mistakes, or itemise language entities, do disservice to the power the new medium offers, and represent language only to the same extent that a pocket dictionary represents either language or life.

In the year 2001 we have just set foot on the coast of the digital world. The learning process in making programs for language support is just beginning. In this project, I have tried to encompass the variety of fields which need to be explored and absorbed by the makers of language support programs: linguistics, sociolinguistics, psycholinguistics, memetics, computer, pragmatics, management and economics all need to be considered.

The major debt is to Halliday's systemic functional linguistics, because his rigorous account of the systematicity of the human-linguistic interface enables ways of making language programs which other linguistic theories do not. The second debt, a related one, is to Dawkin's perception that units of culture evolve analogously and within the same paradigms as genetic evolution. Systemic functional linguistics is itself essentially an evolutionary account of language. The evolution of language and of cultural units allows understanding of the relative and contingent nature of academic Englishes. We need therefore not 'lock in', as Sunter expresses it, to one mode, one standard, one English or even one language , in educational language support.

Webb made a reasoned plea for regional approaches to language use. His attitude meshes with Halliday's descriptive, as opposed to prescriptive, linguistics. It has until recently been the case in South Africa that models of language support have been authoritarian and prescriptive, and that corpus linguistics and lexicographic principles have been relatively unknown. It is still the case that prescriptivism rules, in terms of a judgmental attitude towards language support models which do not 'cast the memes' of 'integration', 'interactivity', 'learner-centredness', 'authenticity' and so on, even though those terms do not transfer readily or naturally from courses to programs.

Language support programs need to be considered in tandem with teaching rather than as an autonomous substitute for teaching. They do not pose a threat to the human touch in teaching. Rather, our experience has shown that they reinforce teacher-student contact on a closer, one-to-one basis. Using computers for language support also does not 'free up' lecturers to do other things — the process is intensely labour intensive and demands hours and energy which support

courses have never required. There are problems: students, and student assistants, tend to perceive online support as end-user computing and as a skill to add to their cv, while language problems are absorbed only secondarily or subliminally. Support programs need to mesh with the established institutional infrastructures. Power vacuums created by transformation and by the move to outcomes-based education have destabilised the systems within which online learning should be sited. IT professionals are willing but always overstretched, and without their support online projects cannot succeed. The World Wide Web and online learning are, however, here to stay, and there is no longer any point in asking wrong questions such as whether courses are 'better' than programs or what the difference is between surfing and exploring the web.

The bench-marks for a good course do not transfer automatically to the new medium, because, as in any creative act, the medium itself enables design principles and parameters which must by definition be different in the new environment. Design is both enabled and restricted by the possible. The pleasure in creating something new is a challenge to extend the horizon of the possible in every direction.

New programs may be requisitioned by publishers or universities from specialist teams, and may be used in new computer labs, with specialised work stations. But programs can be made as the result of a flash of inspiration, and online learning can be achieved in labs with minimal facilities using old computers. The new have-nots need not be those who are denied access to the information ecosystem. Making good programs costs time and energy, not money, and using good programs is possible, as we have demonstrated at Vista University, on old 486s with only 8 or 16 meg ram. It would seem to be the case, on the basis of the evidence, that technical

problems and management difficulties are similar whatever the economic level of the operation. Student learning difficulties are also similar. New modes of student assessment and course evaluation need to evolve with the new methodologies.

Finally, at tertiary level, the needs of both first and second language students can be satisfied by online asynchronous learning and an exploratory self-access approach to language support, which side-steps the problems associated with compulsory foundation courses. A large program, or a variety or suite of programs, can be tailored to integrate with most academic disciplines, since all participate in the shared core of formal academic language, the language which, for the immediate future, all tertiary students need, regardless of ideology or post-colonial desire. The core may be seen as the methods, themes, and tools which may be applied to specific, discipline-indexed materials.

It is in the interests of language support teaching to prepare students, not towards an abstract goal of linguistic competence, but towards what they will be paid to perform in the job market of the region in which they find themselves. Language support programs should therefore enable students to diagnose and find solutions for themselves, for specific problems for which they will need answers. A well-designed program should allow students to navigate their way easily, without special assistance, through the systems of language use and tools, skills and resources which a program can offer them. A program used at tertiary level can in fact accompany students as a resource for the rest of their working lives.

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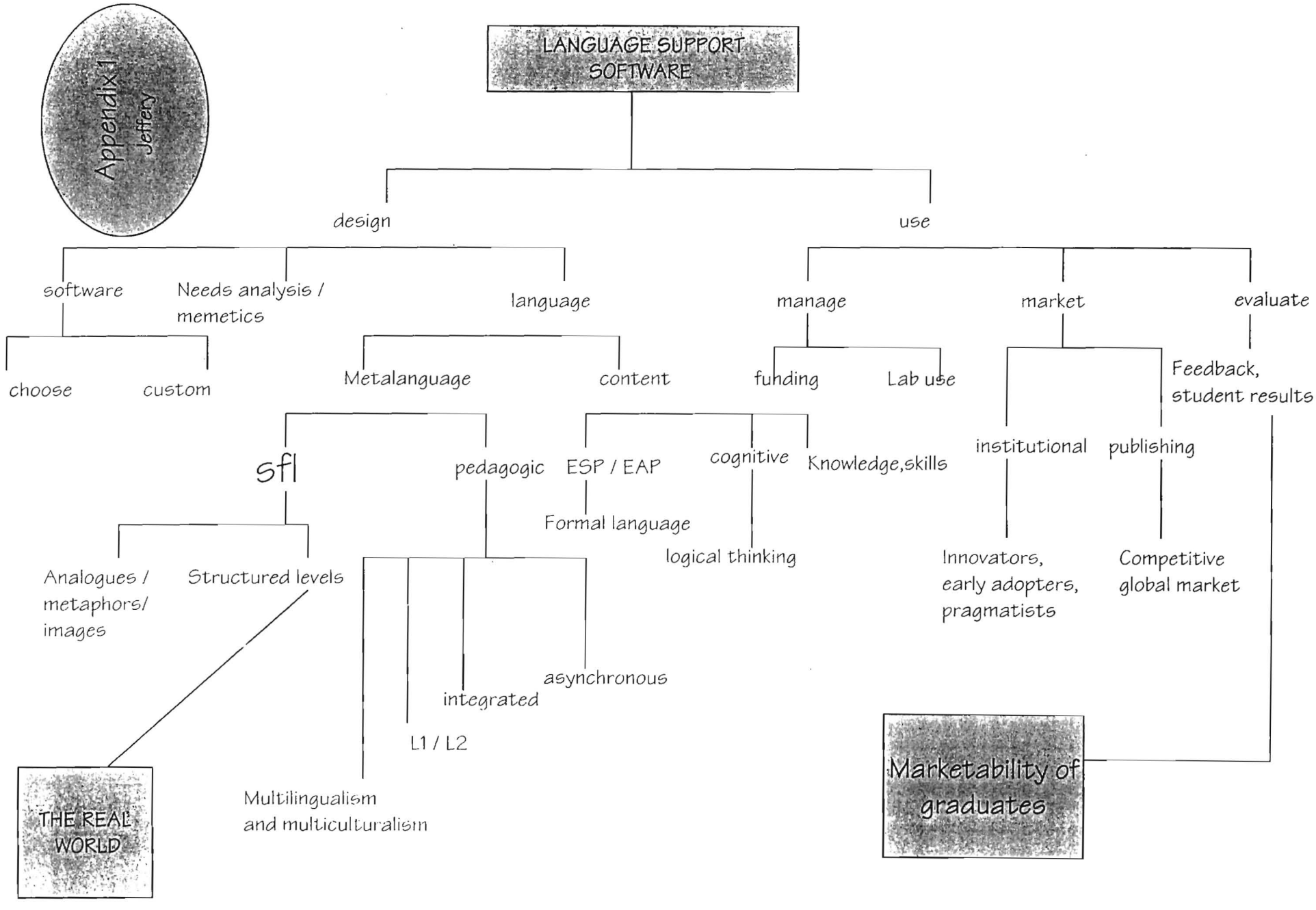
APPENDICES

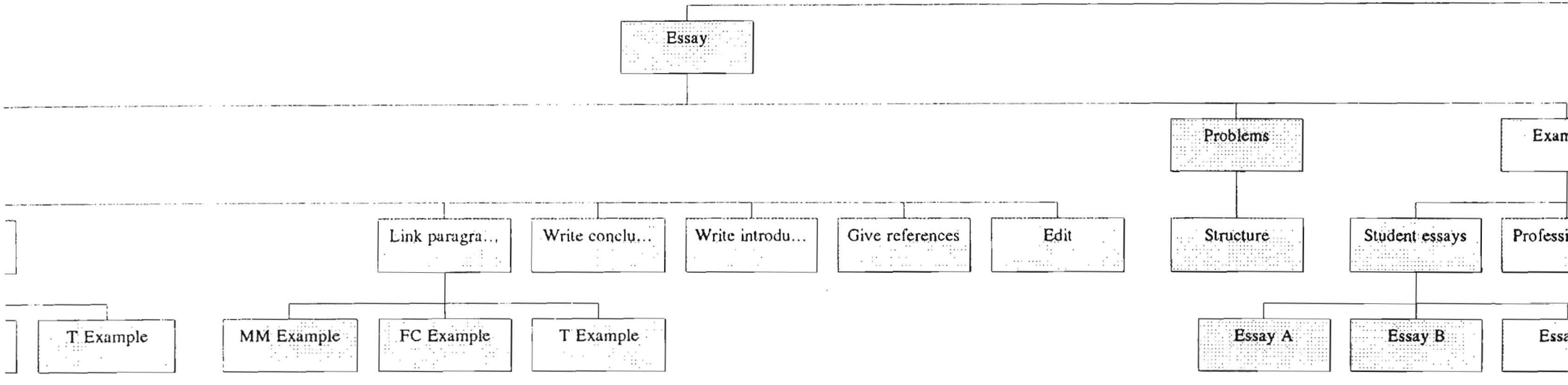

Appendix1
Jeffery
LANGUAGE SUPPORT SOFTWARE
design
use
software
Needs analysis / memetics
language
manage
market
evaluate
choose
custom
Metalanguage
content
funding
Lab use
Feedback, student results
sfl
pedagogic
ESP / EAP
cognitive
Knowledge,skills
institutional
publishing
Formal language
logical thinking
Analogues / metaphors/ images
Structured levels
Innovators, early adopters, pragmatists
Competitive global market
asynchronous
integrated
L1 / L2
THE REAL WORLD
Multilingualism and multiculturalism
Marketability of graduates

APPENDIX 2

The navigation view of English for Everyone

The following pages form a complete chain, with 2 attached to the right of 1, 3 attached to the right of 2... The centre of the navigation view is on page 5, the Home Page of the program.

In this view, the hyperlinks which connect screens and topics to each other are invisible. This view is supplemented by the core image in Appendix 5, and also by a hyperlink view, which is not readily printable.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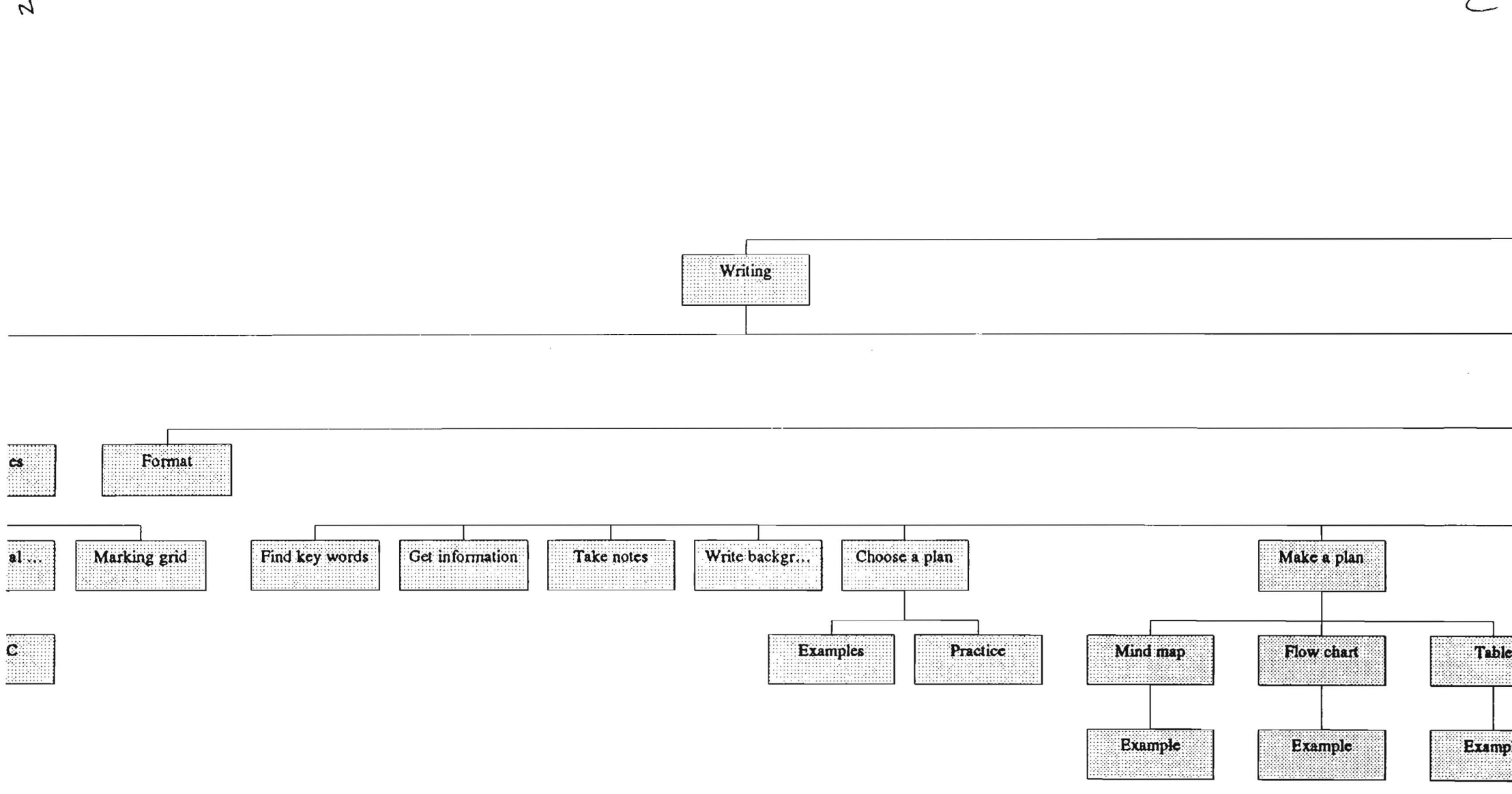
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Choose a plan
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Table
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Example
Examp

Research report
Business letter
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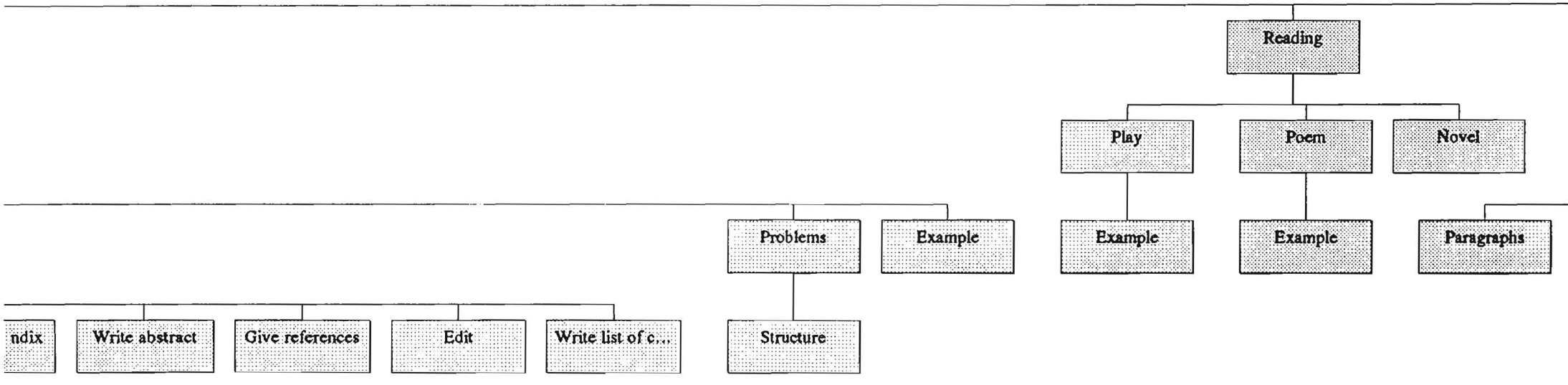
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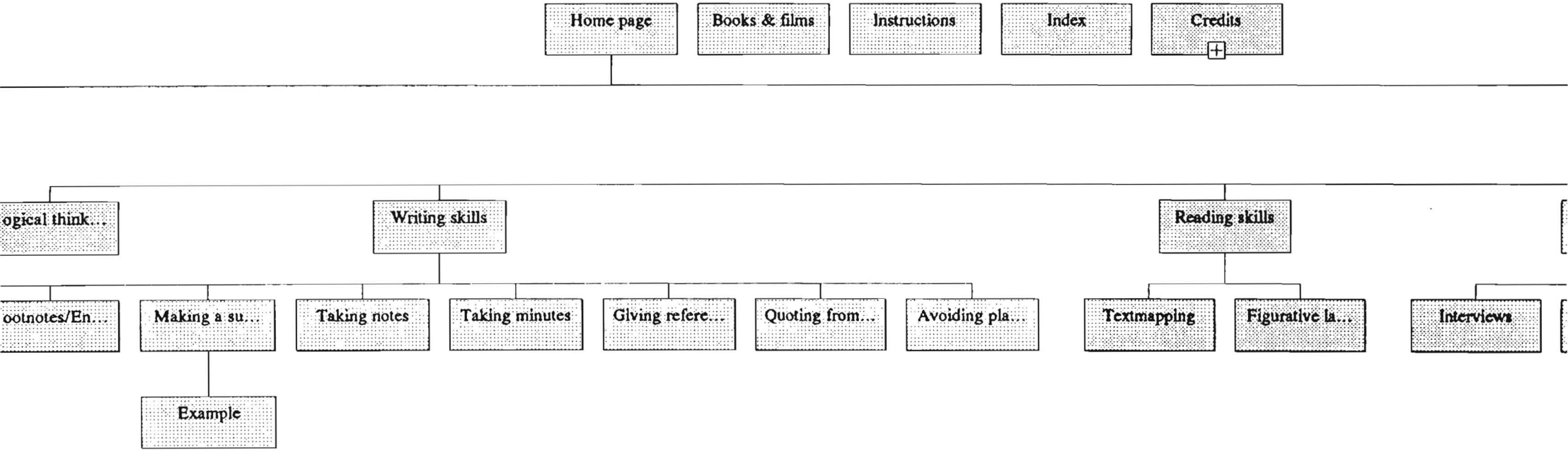
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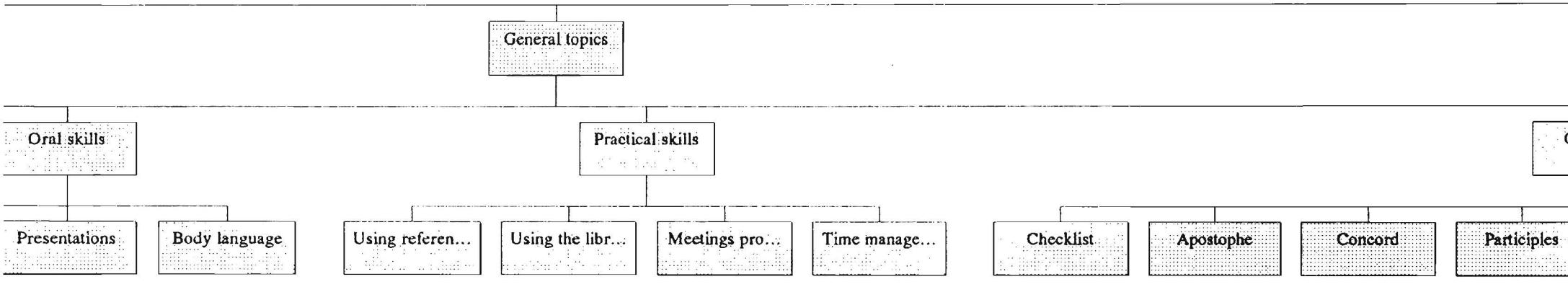
Example


General topics
Oral skills
Practical skills
Presentations
Body language
Using referen...
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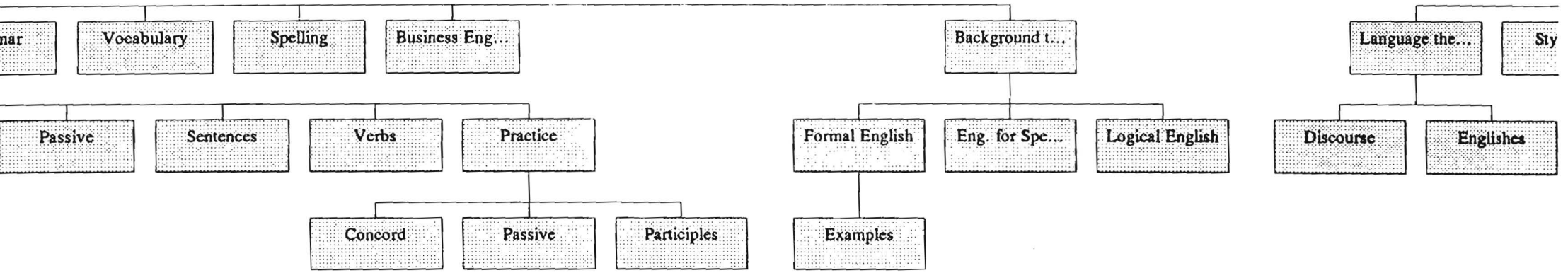
Meetings pro...
Time manage...
Checklist
Apostophe
Concord
Participles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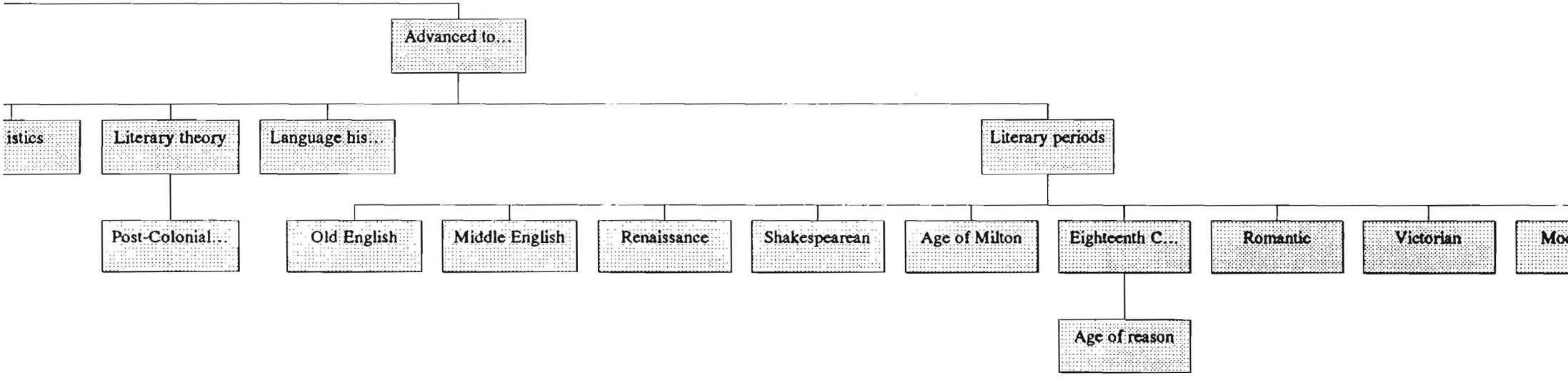
Examples


Advanced to...
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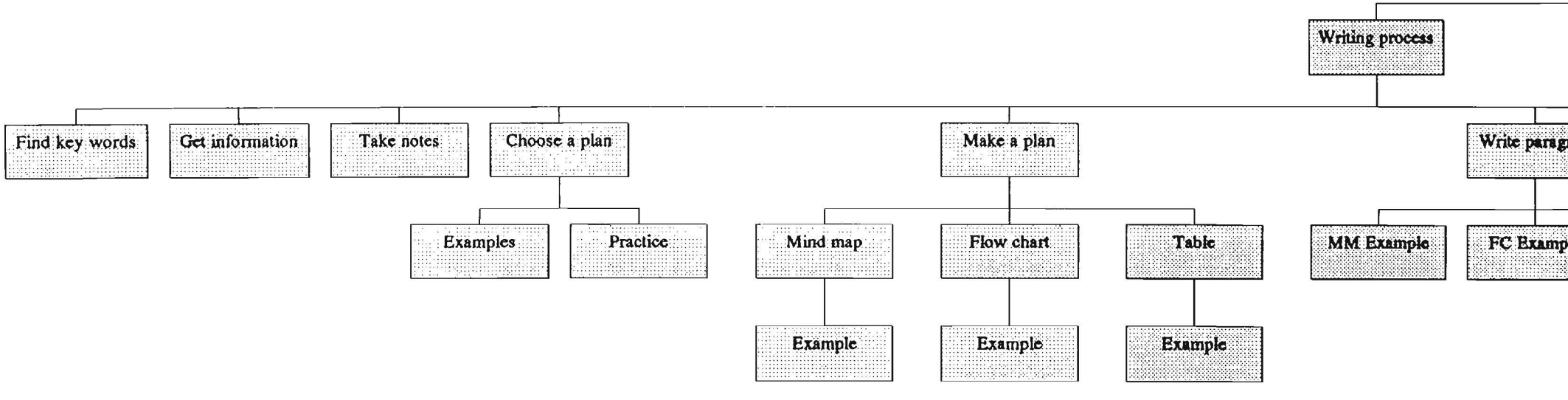
Old English
Middle English
Renaissance
Shakespearean
Age of Milton
Eighteenth C...
Romantic
Victorian
Age of reason


Writing process
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Get information
Take notes
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Practice
Mind map
Flow chart
Table
MM Example
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nism

Postmodernism

Find key words

Get information

Take notes

E

Appendix 3

A Dictionary of the Older Scottish Tongue (ongoing) ed Sir W Craigie, Prof A. J. Aitken. Chicago and Edinburgh: Chicago University Press.

The articles for *out* v..adv., adj., prep., interj.. written by B. Jeffery (1974). This article illustrates sense divisions made according to collocations. not primarily according to 'meaning'. As systemic functional linguistics states, the meaning of a word is its use in context.

is As quha wald chenge gud gold in leid or tyn; HENR. *Fab.* 1307 (Bann.). Becaus the pepill war of power small As eith it war for till ourturn thame all; STEWART 6144. The subscryveing of the King's Covenant..became the soveraigne ingyne to overturne episcopacie; 1639 BAILLIE I. 115.

b. To turn around, reverse, change completely (a judgement, intention, undertaking).

Irous entent Our-twrnys skilful jugement; *Rauis R.* 454. Giftis..ourturnis the wordis of rychttuis mene; *Baronis Lawis* fol. 10 b.

Ou'rtwinckle, var. of OVERTWINKLE *v.* **Ourtyrf,** var. of OURTIRVE *v.* **Ourule,** var. of OURLE *n.*

(Ourvolt-,) Ourevoltit, *p.p.* Vaulted over. — And all the greis ourevoltit war and sylit; *Alex.* (Taym.) 11142.

Ourvolve, Ourevolve, -wolve, *v.* (? OUR *adv.* 2 and L. *volvere* to roll, turn, hence 'to turn over, lay aside', unless the original read *onrevolvit* 'not turned over' (ON.-*prefix* and L. *revolvĕre* to turn over) and the *l* is an error.) — For byssynes quhilk occurrit on cace Ourvoluyt I [*E.* Oure woluit I]; *Ruthv.* Ourevolvit of] this volume lay a space; DOUG. VII. Prol. 154.

Ourwade, *v.* [ME. (once) *over-wad* p.p. (Wyclif), OE. *ofer-wadan.*] *tr.* To wade across. — That..he suld mak that ryver sa lytill that a wyf passand the contree suld nocht wete hir kneis till ourwade it; HAY I. 37/16.

Ourwelt, Overwelt, *v.* Also: **oure-.** P.t. and p.p. **-weltit, -weltyt, -welt.** [OUR *adv.* 2, OVER *adv.* 2; WELT *v.*; cf. ME. *over-walt* p.p. (14th c.); pres. t. (14th c.), and mod. Yorksh. dial. *ower-, overwelt.* Only in Douglas.] **a.** *tr.* To turn over, throw over or down. **b.** *intr.* To tumble over. — **a.** Ourweltyt [*Ruddim.* ouer weltit] eyk with arys From thar forstammys the bullyr brays and raris; DOUG. V. iii. 77. *Ib.* VIII. xii. 37. With hys left fut hes he Pallas ded corps ourwelt; *Ib.* X. viii. 137. To hungyn in ballance..quham the pasand wecht ourwelt [*v.rr.* oure weltit] to de; *Ib.* XII. xii. 80. — **b.** Ourweltis Rethus in ded thrawys atanys And with hys helys smayt the Rutilian planys; DOUG. X. vii. 105.

Our-, Overwelter, Ourwalter, *v.* Pres. p. also **ourweltrand.** [OUR *adv.* 2, OVER *adv.* 2; WELTER *v.*, *tr.* and *intr.* To roll over. — The rageand storm ourweltrand [*Sm.* ourwalterand. *Ruddim.* ouerwelter and] wally seys; DOUG. VII. Prol. 18. Woddis heyrdis flokkis catale and men Our welterand with hym [*sc.* a boulder] in the deip glen; *Ib.* XII. xi. 166.

Ourwend, var. of OVERWEND *v.*

Ourwomen, *n.* [After OURMAN *n.* 2. Also Overiswoman.] A female chief arbiter or judge, having the casting vote. — Certane honorable jugeis..and vmquhile the Quene..as odwoman or ourwomen; 1587 *Acts* III. 469/2.

Our-, Owr-, Ovir-, Owerword, *n.* [OUR *adv.* 6 or 8. Also in the mod. dial. as *owerword* etc.] The burden or refrain of a poem. — Ay is the owr vord [*v.r.* ouir word] off the gest Giff thame the pelff [etc.]; DUNB. lviii. 4 (M). Gif 3e lyke to put ane owerword to any of thame as making the last lyne of the first verse to be the last lyne of euerie vther verse; JAMES VI *Poems* I. 83/3. Each..to make a extemporary sonnet..the ourword being *un cucou mene un autre*; 1665 LAUDER *Jrnl.* 103.

Ouryhoude, -yhud, -3eid, p.t. of OURGA *v.* **Ourys,** var. of OURIS *possess. pron.*

Our-3eir, Oweryere, *a.* [Cf. later Sc. (1702) and north. Eng. dial. *over-, oweryear* (of an animal) kept over from the preceding year.] Left over from the preceding year, of old stock; superannuated, antiquated. — ix elne of the Kingis auin taffeti quhilk remanit our 3eir; 1508 *Treas. Acc.* IV. 23. No more into [*sc.* songs] oweryere F. *ces fables surannées* lyes delyte; JAMES VI *Poems* I. 33/280.

Our3ude, -3hu(y)de, p.t. of OURGA *v.*

Ous, var. of US *pron.*

Ousett. (Appar. the same as e.m.E. *osed* (1482), *oset, ossett* 'some kind of woven material, app. of wool' (O.E.D.). Whereas it is easy to connect *ousett* with north. ME. and Sc. *worset* worsted, a similar derivation of *oset, ossett* does not seem possible.) — 3our bairfeit and 3our ousett coull of gray; HENR. *Fab.* 679 (Bann.).

Oush, var. of USCHE *n.*

Ouschewing, var. of ESCHEWING *vbl. n.* (avoiding). — [For ouschewing [of innocent blood]; 1569 *Cal. Sc. P.* III. 15.

Oussin(g, pl. of OX *n.* **Oustage,** var. of OSTAGE *n.*[1]

Ouster, var. of *woster* WESTER *a.* — On the west end of the kirk befoir the craftis loft the first ouster pew; 1656 *Ayr Chart.* 196. The ouster pewes; *Ib.*

Oustler, var. of OSTLAR(E *n.* **Ouswaill,** var. of USUAL *a.*

Out, *v.* Also: oute, owt. P.t. and p.p. out(t)it, -ed, owtit. [ME. *oute(n* (14th c.), *owte(n,* e.m.E. *out(e, owt,* f. the adv.; cf. OE. *útian* to expel.]

1. *tr.* To eject, expel, get rid of.

Ilkane of thir 'the hart, the lever & the harnys] has his clengying plas quhar he may out his superfluces & clenge him; *c* 1420 *Liber Calchou* II. 448.

b. To expel or dismiss (a person) from (*of*) an office, ministerial charge, etc.

Common in the later 17th c. esp. as applied, freq. without complement, to clergy turned out of their charge: see also OUTIT *ppl. a.* 3.

(1) So far as they can impede it by outing and discountenancing his ministers [viz. covenanting ministers]; DURHAM *Commandments* (1675) 48. To show that the bishops have not been outed by law; SHARPE in Wodrow *Hist.* (1828) I. 50. J. GORDON *Hist.* III. 65. The prelates are now busied to fill the places of outed ministers, especially in the west where maniest were outed; W. ROW *Blair* 437. Upon designe to out them [the clerks] that there may be ane vacancie for some freind; 1678 *Edinb. B. Rec.* X. 348. COLVIL *Whig's Suppl.* (1751) 99. SHIELDS *Hind Let Loose* (1797) 219. PITCAIRNE *Assembly* (1766) 31. More than 300 [of the episcopal clergy] who were outed by the rabble; SAGE *Fundam. Chart. Presb.* (1695) Pref.

(2) That acte [of 1649]..by wich he was outted of hes office and place of lord thesaurer of the kingdome; BALFOUR *Ann.* III. 435. Since I was outed of my ministry; CARSTAIRS in Wodrow *Hist.* (1828) I. 405. Some..stood out [against their diocesan bishop] and were outed of their livings; FRASER *Polichron.* 445.

2. To put out or issue for sale; to release for sale; to sell.

And gif he outtit nocht the said [etc.]..betuix this & [etc.]; 1538 *Aberd. B. Rec.* MS. XVI. (Jam.). Frenche claith and silks ..Quhilks for to out with dowbill met and mesure; 1572 *Sat. P.* xxxiii. 343. Twa dusoun off symmer scheip skinnis to hawe bene owtit and sauld be him in siclyk..maner as he suld happin to sell and owt his awin guidis; 1590–1 *Crail B. Ct.* MS. 9 Feb. 1601 *Edinb. B. Rec.* V. 280. Nor to oute the same at ane higher rait nor the trew uorth; 1627 *Reg. Privy C.* 2 Ser. II. 162. A calling..to out Christ and his wares to countrey buyers; 1637 RUTHERFORD *Lett.* (1671) 55. Mair lossit be turnowr lying besyd him and not outit; 1640 *Glasgow Trades House* 208. This Farquhar outit his myttie meill upone the honest people of the toun at ane heighe price; 1642 SPALDING II. 101.

b. To spend (money).

The said Jhon conwoyit..the persewaris gold siluer and wtheris guidis..to Queinsbrig and owtit and wairit the samin thair; 1590–1 *Crail B. Ct.* MS. 9 Feb. You will find hands abundance where to out itt; 1659 *Belhevius Redivivus* 68 in *Fugitive Poetry* 2 Ser.

c. To issue, utter or circulate (counterfeit money).

Prentit within the duelling houssis..and tressonablie outit the samin amangis our souerane lordis liegis; 1598 *Crim. Trials* II. 75. Of the quhilkis thay tressonablie outit ane to the said Dauid Hallis wyffe; 1601 *Ib.* 353. He..coft ane broune meir for the quhilk he tressonablie outit and payit xxiiij poundis of the said fals gold; *Ib.* 52. False and counterfoote copper penneis wer brought..and outted among his majesteis subjects as good coyne; 1634 Cochran-Patrick *Coinage* II. 40.

3. In non-material applications: To exhibit, display; to utter, express; to vent.

To out one's heart upon (another), ?'to pour out one's heart to', to confide in.

(1) His bryd, hir bewty sett asyd, Had littil than to owt hir pryd; *Rob Stene* 3. His majeste promesis that hir majeste sall be satesffeyitt to hir honowre..quharin his majeste owtis na dowt; *c* 1596 *Milne-Home MSS.* 63. He knew..how to gyde his turne with the gritest of Scotland and had outit his turnis aganis thame; 1616 *Sc. N. & Q.* 2 Ser. I. 1. This one inventeth a lye, another venteth and outeth it, and a third reseteth it, like coyners, spreaders and resetters of false money;

DURHAM *Commandments* (1675) 265. Much of His love..is outed and expressed in that act & work; 1675 J. FRASER in *Sel. Biog.* II. 123.

(2) I can find no ways to out my heart upon Christ; RUTHERFORD *Lett.* (1705) I. No. 135.

Out, *adv.* (*adj.*) Also: oute, owt(e, outt(e, owtt(e, ouit(t and UT. ME. and e.mE. *out(e*, *owt(e* etc., OE. *út*; also ME. *ute*, *oute*, OE. *útc*. outwards, outside, in existence. Out.

The prep. comb. OUT OF is separately treated. For other constructions with preps., as with *of* not immediately following the adv. or with *fra*, see below, e.g. 2 d, 13 k, etc.

Chiefly in close conjunction with verbs (including the verb *to be* where its use resembles that of a predic. adj.).

I. Expressing motion or direction outwards, *lit.* and *transf.*

1. a. From within an enclosed space or from its normal position *in* something; also, so as to occupy a position beyond or outside of that previously occupied.

With *tr.* verbs, as *bring, cast, ding, draw, lat, set, take* etc., and with *intr.* verbs, as *brist, cum, isch, rusch* etc.: for many further examples see these and other verbs of expulsion, withdrawal, release or movement.

(1) That..ane of his eyne suld be put out; HAY I. 298/25. He..tuke out a buke of his bosum and began to rede; *Ib.* II. 6/33. Of ane schip sche wald stryk out the syde; *Alex.* (Taym.) 2961. Be thai vntrev, pul out and mak al quyte; *Regim. Princ.* 11. Out with suerdis thai swang fra thair schalk side; *Gol. & Gaw.* 562. Than with ane stew stert out the stoppell of my hals; DUNB. *Tua Mar. W.* 339. He had assayt..Hyd Grekis covert with irne to haue rent owt; DOUG. II. i. 77. The assys deip..Doun dyd thai cast and scrapis owt atanys The hait amyrris; *Ib.* XI. v. 63. Owte; LYND *Sat.* Proclam. 173. Bot wordes past out cummis not againe; *Maitl. Q.* lxvii. 4. 1592 *Burntisland B. Ct.* 27 Sept. (see OUTSETTING *vbl. n.* 2 a).

b. In *fig.* and special phrases.

Oute be thai tane of the buke of lyfe; 14.. *Statut. Sc. Ch.* 6. Cast out all cair; *Dunb. App.* x. 38. The maledictione of the pure Sall on 30w and 30ur seid indure Vntyll that 3e be rutit oute; LAUDER *Off. Kings* 481. O thow preist..graif owt the precious stanis of godlie doctrine; WINZET II. 57/9. To study to take out this lesson of self-denial; DURHAM *Subtile Self* 4. His wyfe haweing brocht out thrie childrein; 1653 *Glasgow B. Rec.* II. 270. Ye may even greet out your even hols; W. GUTHRIE *Letters Horning* 6.

c. With ellipsis of the verb.

In imperative passing into *interj*: see OUT *interj.*

The men than owt on full gret hy; BARB. XVII. 699 (E). Johannes oute with the sword apud Dere; 1406 *Aberd. B. Rec.* (S.H.S.) 228. Thay schup to armes thair was bot vp and out; *Alex.* (Taym.) 2168. Out with 30ur boulings; MONTG. *Misc. P.* xlviii. 141.

2. Out from a building or enclosed place.

See also CAST *v.*, ISCH *v.* 1 and 2, ISCHEW *v.* 1, LEPE *v.* 1 and RUSCH *v.* for examples.

The basare than..son hynt hyre owt; *Leg. S.* xxxi. 902. Quha sa evir..sellis his lande..he sall be innouth and sall pas out; *Acts* I. 30/2. With that Will Swane come sueitand out; *Peblis to Play* 191. Stanys and spyrngaldis thai cast out so fast; *Wall.* VIII. 777. Certaine of the castell men wschit out; PITSC. II. 11/16.

b. (To go or come) out of doors or into the open.

For..gaing out with the bell quhen the corpis is liftit; 1655 *Lanark B. Rec.* 156. What ails our lairds that they come not out to hear the gospel preached? RENWICK *Serm.* 299.

c. Const. *at* (a door, gate, window).

Pietie..privelie out at the dure is gone; *K. Hart* 360. The compleaner..is forced to beg his meat out at the yrnehous windowes; 1628 *Reg. Privy C.* 2 Ser. II. 215. 1638 *Dumbarton B. Rec.* 55. The doug was amissing having imediatlie gone out at doores; 1661 *Black Sc. Witches* 43.

d. From captivity or danger, *lit.* and *fig.*

See also BREK *v.* 2 a and 9 and LAT *v.* 10 c for further examples.

The bischope..Iniungit hyr heileful pennance & of wanehope put hire oute; *Leg. S.* xxxiv. 207. Quhair thair apperit great danger and dout. Loving to God 3it we wan rycht weill out; STEWART 50024. ARBUTHNOT *Maitl. F.* XXIX. 19. I wish Collonell Mein3ies wer gottine out upon bale; 1671 *Rep. Menzies MSS.* 23.

3. a. Away from a place.

See also DRIVE *v.* 1 d (2), HUND *v.* b, LAT *v.* 10 c, and PUT *v.* for further examples. Also *to hound out*: see HOUND *v.* 5 and HUND *v.* a and OUTHUND *v.*

Withdraw 30w out mare hastelly! *Alex.* II. 4594. And therefore..I brought owt nothinge with me but the clothes was one me; 1573 *Inv. Q. Mary* App. clii. The Rutherfoords with grit renown Convoyed the town of Jedbrugh out; *Reid Swire* 24. In the..interteinning of all imbassitoris sent out or coming in; *c* 1600 *Aberd. Council Lett.* I. 90.

b. Away from the shore, to sea.

So that the Grekes schippes ilkone..Thus all the day continued owt; *Troy-bk.* II. 1729. The rebellis wshit owt in a boat; 1615 *Highland P.* III. 185. Sum..lenchit owt thair boatis; *Ib.*

c. From one's home.

I vill pray yow send all the siluer ye can gett..ovit vyth the hors; 1590 *Wans Corr.* 463.

4. With verbs expressing emission of breath, wind or the like.

See, e.g., BLAW *v.* and LAT *v.* 10 c.

5. (*To direct*) *out* (a writ) from a central authority.

It salbe lesum to the iudge to direct out inhibitionis vpone the intromettouris; *Instit. Ct. Sess.* 27 a. Thairefter direct out lettres thairupoun; 1588 *Glenartney Doc.*

6. From oneself to another or others.

With verbs of giving, sharing, spending or owing, as *aw, dispend, give, lat, lay, mete, ware*, qq.v. for examples.

7. From possession or enjoyment of something.

For examples see LAY *v.* 42 d, PAS *v.* 43, PUT *v.*

8. a. *To labour* or *rive out* (land, into cultivation), *sc.* from untilled land: see LABOUR *v.* 1 (2), RIVE *v.* and cf. OUTBREKE *v.*[2] b. *To win out* (a 'room' in a coal-pit): see WIN *v.*

9. *To brek, cast, ding, strike out* (a door, window or the like), *sc.* through a wall: to bring into existence in this way.

See BREK *v.* 4 and DING *v.* 8 (5) for further examples.

That na lychtis durris nor windois sal be castin owt to the eist; 1562 *Grey Friars* II. 90. For striking out a dore betuix the new chalmers and the Queens kiching; 1618 *M. Works Acc.* (ed.) II. 110.

10. With verbs of looking or seeing.

As *to keke, luke, se out, to luke straight out, to luke out blith*, for which see these verbs.

Cf. also sense 19.

b. With verbs of shining or the like: see SCHINE *v.* and 29 (5) below.

11. a. So as to project or protrude outwards: see also OUTTHROUCH, THROUCHOUT, THROW-OUT.

To lat out one's hand (in enmity) *against another*: see LAT *v.* 10 c (a).

That, as ane hyrchoune, all his rout Gert set owt speris all about; BARB. XII. 354 (E). Baith heid and feit and taill 3e man streik out; HENR. *Fab.* 2135 (H). He..so him raife all throuch the bodie out; *Clar.* III. 393. That wan farthest out; BUCH. *Comm. on Virgil* Æn. V. 271. Strukin in at the knie with ane lanse and out at the buttok; *Hist. Kennedy* 48.

b. So as to be opened or spread.

See LAY *v.* 42 a (2) for further examples.

Bot lawchis on Phebus lowsing owt his leivis; *Bann. MS.* I. p. 52/10. By laying out linen cloath; 1671 *Cullen Kirk S.* 18 June.

12. With *to breke* or *brist*: Into existence or activity of various kinds. Also said of flames or fire.

See, for further examples, BREK *v.* 9 a and BRIST *v.* 2 b and cf. OUTBREKING *vbl. n.*

The fyr owt syne in bles brast; BARB. IV. 129. Als sone as ever the warld was created, this wisdome brak out and was reveiled; ROLLOCK *Wks.* I. 370. But pride & breaking out

but doubt Gart Tindaill lads begin the quarrell; *Reid Swire* 159.

II. Of position outside.

13. a. In a position resulting from movement or expulsion from a place previously occupied. Also *fig.*

I herd syndir men oft say..that his ane e ves out; BARB. V. 507. He rase allane fra it wes owte; WYNT. VIII. 5241. The rede reiffar..Held out a gluff in takyn off the trew; *Wall.* IX. 169. Thocht nighbouris aboutt wis hir toung outt It dois thame not availl; *Dun. Wyf* 113 (Reidpeth).

fig. When wyn is in wit is out; Ferg. *Prov.* MS. No. 1443.

b. Outside a house, out of doors. **c.** Outside an enclosed place.

See also HALD *v.* 18 (10) and LY *v.* 4 (2) for examples.

Also *from out*, from another place, from beyond.

(1) In ilke syd thai gadryt owt To met that sancte; *Leg. S.* xxiv. 515. A blake man with blak cloathes..appeired to her out among a whin breir; 1647 *Durh. Univ. J.* XXXIX. 64.

(2) The sessioune vpon sicht of signes at hame and report of the taikines of repentance from out grantis [etc.]; 1615 *Fraserburgh Kirk S.* 27 June.

d. At a distance from the land; at a distance from the shore.

Out-upoun-the-yle, 4 d. terre, uthall; 1595 *Orkney Rentals* II. 105. It was a great providence that scho [a ship] did ly out at the fardest key, quhairas gif scho haid lyne in, [etc.]; 1654 NICOLL *Diary* 123.

e. Out of possession of property or occupation of an office: see LY *v.* 9 a (2).

f. Projecting. **g.** Extended, spread.

Quhair thir twa riueris meitis hings ouir a gret craig and standes far out; DALR. I. 30/18. I spring—I sprout; My leivis ly out; MONTG. *Misc. P.* XV. 50.

h. Around.

All out the ches [F. *Tout entour* l'eschequier] lay The knichtis of Grece to se the play; *Alex.* II. 3789.

i. *To leve out*, to omit: see LEVE *v.* 3 b.

j. ? Out of favour.

He speikis na thing of thame that is out, nouther gude nor euill, but fleis that point; BUCH. *Detect.* (1727) 142.

k. *Out..off*, = OUT OF *prep.* 8 a.

That he was out that tym off Cummyrnauld; *Wall.* IX. 1671.

III. In the following senses the notions of motion and position are treated together, or are not considered.

14. a. *To fall out*, to happen: see FALL *v.* 5 c.

b. *To fall out in*, to 'go off', 'launch', into (an activity or speech): see also FALL *v.* 4 g.

Paul in..the auchtenth verse, considering that deipnes fallis out in thir wordis; 1599 ROLLOCK *Wks.* I. 382. And thairfoir the apostle..fallis out in ane admiration of the deipnes..of the wisdom..of God; *Ib.*

c. (*To cast, fall* or *be*) *out* (*with* someone), at variance, at odds, at enmity.

Iff they should fall owt again..they should both stand in the jugges; 1654 *Stirling Ant.* II. 16. He had no great mind to be owt with me; 1657 *Misc. Hist. Soc.* VII. 24. There is nothing in Christ to be casten out with; RENWICK *Serm.* 445.

15. Of a fire or light: Extinguished. In *to ga, to put* or *to blaw*, and *to be*, out.

(1) And ay it [the fire] 3ede qwyt out away; *Troy-bk.* II. 428.

(2) The lichtis that wer sene..all the nicht lang wer..put out; BUCH. *Detect.* (1727) 69.

fig. The bisschoppis blastis being blawne out and calmit; MELVILL 718.

(3) Quhen licht wes owt and durris wes bard; DUNB. XXXII. 46. A fyre that is all out is evill to kendle; CARMICHAEL *Prov.* No. 106.

16. *To tak out*, to untie (a lace).

Na of his schone the laise tak oute [Vulgate *solvere*]; *Leg. S.* xxxvi. 1207.

17. a. Aloud. Also *out plane*. *To speke out*, to speak one's mind; see SPEKE *v.*

For further examples see BLAW *v.* 5, BRIST *v.* 2 b, CRY *v.* 6 a.

This sang a bird with voce out plane All eirdlie joy returnis in pane; DUNB. xii. 3 (M). Gif that 3our grace neidit vpon me call, 3e micht gar cry out ouir the castell wall; ROLLAND *Seven S.* 6998. *Proclamat* cryeth out; BUCH. *Comm. on Virgil* Æn. V. 345. That now mischienous persounes feir nathing to rail out against that estait; DALR. I. 109/15.

b. To open or public knowledge, publicly proclaimed.

See also GIVE *v.* and ISCHEW *v.* 2 for further examples.

Scho wes cristine bot fore doute To that tyme scho leit nocht owte; *Leg. S.* xxxviii. 104. Out gais ane proclamation; BUCH. *Detect.* (1727) 25. [The Governor] sendis messingeris..with the fyre crose..[who] sulde shaw it out to al man; DALR. II. 297/18. That..non be givin out upone the lyittes of the deykins of craftis bot [etc.]; 1634 *Edinb. B. Rec.* VII. 153.

18. a. With verbs of selection: From among a number of the persons and things concerned.

See CHESE *v.* 1 b and WALE *v.* for further examples and cf. OUTWALE *v.*

Thou art scho that examynis al hartis &..chesis out the fynit hartis; *Porteous Noblenes* 183/34. To elect and choose out a discreit man; 1600 *Bk. Univ. Kirk* III. 960.

b. With verbs of separation: see 28 (11).

19. With verbs of inquiry, search, discovery or the like, intensifying or expressing persistence.

As *to find, hunt, lern, luke, seke, spere out* (see these verbs), also *to luke* or *se out for* (see LUKE *v.* 2 h and SE *v.*).

20. Expressing completion of the action of the verb: To completion, to the end, entirely.

(*To lows, mak, quit, red*) *out*, see LOWS *v.* 12 a, d, LOWSING *vbl. n.* 2, MAK *v.* 36 a, QUIT *v.*, RED *v.*, and cf. OUTQUIT *v.*, OUTRED *v.*

Quhyll that he sulde all the dout Off that rydyll tell hyr owt And to thame scho sulde telle it hale; WYNT. III. 186. *Resolvit, esplicavit* red out; BUCH. *Comm. on Virgil* Æn. VI. 29. I desire of the omnipotent God that he would weave out the rest of the web of my life; R. BRUCE *Serm.* 230. *Ib.* 240. That every man..run out the rink that the Lord has set before him; *Ib.* 382. & encourage me to the ending out of the rest; JAMES VI *Poems* I. 101/32. A person found..who taketh the broken cause of sinners..and pleads it out and makes out justice; BINNING *Wks.* 343. To build owt and perfyte the samyn [house]; 1677 *Kirkcudbr. B. Rec.* MS. 3 Jan. Have ye gotten your wills out? There are some folk who must have out their wills, cost what it will; CARGILL *Lecture and Sermon* 15.

b. *To fill out*, to complete.

Giffin for vij ½ elne wellus to fill out xxij ½ elne wellus bocht be the thesaurar..to ane gret goune to the King; 1501 *Treas. Acc.* II. 22.

c. *To mak out*, in various senses: see MAK *v.* 36. **d.** *To reke* (= equip, fit) *out*, see REKE *v.* **e.** *To cast, furnis, lay out*: see CAST *v.* 15, FURNIS *v.* 1 b, LAY *v.* 42.

f. ?In weakened sense.

The first course..wes thoght meete to be followed oute; 1613 *Highland P.* III. 136. God helpit me out my sel' to save; G. STUART *Joco-Ser. Disc.* 64.

g. *To mark out*: see MARK *v.* 1 (3). **h.** *To met out*: see MET *v.* 1 b.

21. a. (*To drink* etc.) *out*, so that the cup or vessel is emptied. *To play cop out*, see COP *n.* b. **b.** Of a container: Emptied.

a. Gif ony of the said wyne be drunkin out or spendit; 1483 *Acta Aud.* *123/1. 3our mowth war meit evin to drink owt a jurdane; LYND. *Sat.* 2474 (B.). *Wyf Aucht.* 3.

b. And als the watter that bare it away was lore, The dam was out and it was lang to fill; *Alex.* (Taym.) 3001.

22. To the end of a period of time stated or implied in the context, through; over, past.

I sal be able to beir it out; BUCH. *Comm. on Virgil* Æn. IV. 419. That he lingerit out his lyfe; Id. *Detect.* (1727) 16. Bot fra he fand the tyme ryn out; 1584 SEMPILL *Sat. P.* xlv. 226. Quhen the coronatioune was out; DALR. II. 269/21. [That she] sall..remane thair wntill the third bell be rung out; 1625 *Fraser-*

burgh Kirk S. 12 Oct. Faith should bide green & sappy at the root..and stand out against all stormes; 1637 RUTHERFORD *Lett.* (1671) 182. O say ye, I wad bide it out and I kent how long it would continue; WELSH *Churches Paradox* 18. Giff I had stand it out one day longer, then it had been well. Could ye not stay it out one day longer? *Ib.*

b. *To ly, stand out*, to be in opposition or a rebel, to stand firm in a contest or battle: see LY *v.* 9 b and STAND *v.*

None stoutlier stood out for their laird Nor did the lads of Liddisdail; *Reid Swire* 143.

23. Following a noun phrase stating a period of time: To the end, fully.

This were civile ten yhere owte Contynwyde wes; WYNT. IV. 2153. Twa dayis owt as a depe flwde Throw all the town thare ran rede blude; *Ib.* VIII. 1843. *Wall.* VIII. 931. Ane moneth out thay sojornit in that land; *Clar.* V. 2695. *Ib.* 3027. Ane 3oung cow of tua 3eir auld out price vj li.; 1598 *Brechin Test.* I. 164 b.

24. Qualifying an adj. or adv.: Utterly, thoroughly.

(1) And for thi that thai dred me noucht Noy thaim fer out the mar I moucht; BARB. VI. 666 (E). Thai suld fer out the traister be; *Ib.* XVII. 273.

(2) 3e sall wele owte mar prisyt be; BARB. VII. 442 (E). Fer out; *Ib.* XVII. 273. He wanted na mare than a schowt For till hawe made hym brayne-wode owt; WYNT. VIII. 2062.

25. *All out*, completely: see ALL C b and ALLOUT *adv.*

26. *To take ill out*, to resent.

Which refusal Beatie Laing takes so ill out, that she vows to be revenged; *Acc. Betty Laing* (1704) 7.

27. *In (within) and out, out and in, quhile in quhile out, be in and out*, etc.

a. Of motion: inwards and outwards, alternately out and in, in the senses of I above. **b.** Of position: both inside and outside; also all over, throughout, entirely. **c.** *transf.* Completely, entirely.

For further examples see IN *adv.* 4.

a. Qwhar for thai hafe drynk in and oute; *Ship Laws* c. 9 (B). Bringand..ony gudis in or out at the port of Leith; 1482 *Edinb. Chart.* 167. [The burghs of the west] pay thair haill custumes and impoistis of all thair wairis out and in; 1615 *Highland P.* III. 229. To Robert Home that servit thair [at the castell] that day and caryit out and in the powder; 1622 *M. Works Acc.* (ed.) II. 147. The dimension of the said [race-] course is twyce about the whole stowps and thereftir out and in; 1665 *Edinb. B. Rec.* X. 4.

b. As catell lesuris in and out; WYNT. I. 212 (E). Euir the formost in the feild was he Quhyle in quhyle oute as him list heir and thair; *Alex.* (Taym.) 1333. Traist men..To reule thy kinrik all quhair out and in; *Regim. Princ.* 48 (Maitl.). Lyke as the flowand sey..with his iawpys coverys in and owt The far sandis our the bay abowt; DOUG. XI. xii. 67. First of my bowellis clenge my bodie clene Within & out; LYND. *Test. Meldrum* 51. Noyis arke..Quhilk wes..Off pyne tre maid..Laid ouer with pik, within and out; Id. *Mon.* 1370. Sa 3e will rowll..all the hous baith in and out; *Wyf Awcht.* 23.

c. I..That ar [*sic*] sa fule be in & owt; *Leg. S.* xviii. 645.

IV. *comb.*

28. Prefixed to nouns, quasi-*attrib.* or *adj.*

a. That is outside; that is far out or far forward; outer, outermost; 'advance'.

See also OUTBIGGING, OUTBOUNDIS, OUTHOUS, OUTRIDER, etc.

Gyf the schyp be of Ingland or ony oute kynryke; *Ship Laws* c. 1 (B). Gylmychall..Maid quyt off him. .The out spy thus was lost fra Makfad3hane; *Wall.* VII. 802. On a out part the Scottis set in that tyd; *Ib.* IX. 1757. Off the out wach thus chapyt thai wnseyn; *Ib.* X. 626. And that for in and out coill at Elsonure and in and out coill in Danskin payit be the said Donald; 1578–9 *Perth Guildry* 389 (5 Feb.). [The crop sown by Kellie upon] the cruikit myris and outfaldeis of Gilcolmstone; 1608 *Aberd. Sheriff Ct.* II. 137. The teynds of the inkirk of Lanerk set to the Erle of Angus.., the teynd schewes of the outkirk of Lanerk; *c* 1620 *Liber Dryburgh* 370. That everie candilmaker provyde themselfis in houssis for that end in outplaces, ane hundrethe yeards aff any dwelling houssis within towne; 1654 *Glasgow B. Rec.* II. 300. Four pair of outseamed chitfrines for women; 1661 *Edinb. Test.* LXX. 162. To deliver to..his eister incraft butt, and the said William to deliver..the wester butt in the out end therof; 1662 *Melrose Reg. Rec.* II. 10. Which [shellfish] they gather in great abundance, upon outrocks..and sow them upon rocks they can reach to, dry foot, at low water; 1683 *Coll. Aberd. & Banff* 100.

b. Belonging to, coming from, or taking place in, a place other than that in question.

Freq. with reference to persons from, or activities taking place, outside a particular burgh: see also OUTBURGES, -DWELLAR, etc.

That na nichtbour of the toune take ony owte marrow and speciallie of thame dwelland in Leyth; 1490 (*c* 1580) *Edinb. B. Rec.* I. 60. That thairfor ilk out walkar or scherar of claith to landward cumand within this towne..sall pay ilk oulk ane penny; 1500 *Ib.* 81. And that the tennentis of..Ketheik ma nocht remove hyme bot at the abbot to put in and owt tennent thaire; 1542 *Reg. Cupar A.* II. 183. That the peple sall conveyne to the exhortatioun sa mony as ar nocht occupeit in out labouris; 1563–4 *Inverness B. Rec.* I. 113. My dykis makin costs me..in the 3eir to out seruandis vi s.; 1564–75 *Hamilton & Campsie Test.* I. 25.

29. Prefixed to verbs and verbal nouns, in various above senses.

In some of the verse instances perh. merely to be regarded as a verse variation on the normal word-order in which the adv. follows the verb.

Also OUTBIRST, OUTBRING, etc.

(1) He gert oppyn hyr and owte ta Hyr bowellys; WYNT. V. 587. Throuch the chokkis thi tong sall be out schorn; *Wall.* VI. 408. Outsent; *K. Hart* 178. Out raschit; *Ib.* 434. Behald..harnys tharon owtsmyte; DOUG. V. vii. 92. And tha within hes..greit stonis outslang Attouir the wall; STEWART 20546. Payit for ane tyrleis of irne to the portell of the counsal hous dure outschering thairof; 1553–4 *Edinb. B. Rec.* II. 285. The dountramping of ydolatrie to the outruiting of the quhilk [etc.]; WINȝET I. 11/30. Except..that the said man owt lattin wer owther convict or fugitive; 1564 *Crim. Trials* I. II. 444. For..casting of the dyce for thair places in outleiding; 1620 *Misc. Maitl. C.* I. 199. These eyes..Their traitrous blacke before thee heere out-weepe; DRUMMOND II. 12/4. And outsteilling furthe therof of the guidis..mentionat; 1637 *Banff Ann.* I. 78. Unless there were..a more general outcalling of the body of the people; W. Row *Blair* 250.

(2) Blude and harnis baith out rushit [F. *la cervelle boulir*]; *Alex.* II. 9564. With that ane vther flycht thai leit out staill; *Alex.* (Taym.) 1373. Strenth is away outstolling lyk ane theif; *K. Hart* 825. Quhill quyte owt chapit was the knycht; *Seven S.* 2004. The blude outbullyrand [*Ruddim.* outbullerand] on the nakyt swerd; DOUG. IV. xii. 41. Sa, lolarts, 3our hypocrisy..3e se..dois peice and peice owt slyde; 1571 *Sat. P.* xxix. 44. Outrottit vas hir toung be canker keine; J. STEWART II. 240 § 162. He lowpis in the watter and out sowmis to the land; *Chron. Kings* 169.

(3) At thai mak lardnar in gret and it out tavernis in smallis; *Acts* I. 333/2.

(4) As..forcit fyris..out glemis; *a* 1586 *Sat. P.* xxxvii. 20.

(5) We curs waryis and condamnes and owtstekys fra the fredome of haly Kyrk al conspiratouris that [etc.]; 14.. *Statut. Sc. Ch.* 5. The loss quhilk ye may hawe be outkiping of your cornes; *c* 1610 *Laing MSS.* I. 123.

(6) And ther masters to satisfie thame..according to ther outbyding [on military service] long or schort; 1640 *Misc. Spald. C.* V. 228.

(7) Siclike the first the samin [rumour] gart out spred; ROLLAND *Seven S.* 6736. His coistly goun with taill so wyd owtspred; *Bann. MS.* 64 b/34. The firmament And heauens out-stent Thy handywork..proclaim; MONTG. *Mindes Mel.* 252/2.

(8) Sum playis the fule and all out clattiris; DUNB. lvii. 10. Out letting siches sair; *Clar.* III. 114. Vith organs great all in His potent praise, And vith 3our blissit mouths the sam outblaise; J. STEWART II. 259 § 234.

(9) For knychthede..suld..outsched the wikkit fra the gude peple pesable; HAY II. 33/22.

(10) Some spottis in the house ye man out spy; *Wyf Awcht.* 28 (K). To the inventing, seking, outspying and discovering of the same [minerals]; 1567–8 *Reg. Priv. C.* I. 612.

b. In various perfective and intensitive applications: cf. senses 20–22.

The thik preis he out thirlit sa That, etc.; *Alex.* I. 2394. That he out coft nocht the hors bot had hyme in prefling; 1537–8 *Selkirk B. Ct.* (ed.) 188. For pitthie poemis prettilie out paintis My secreit sighis; MONTG. *Sonn.* liii. 3. And becaus ye gat her not, ye outscoldit him and wer verie angrie; 1644 Hibbert *Shetland Islands* 597. If the bonet be more then 18 ounc working, she is to reseawe spun yarn to out wead it; 1683 *Dundee B. Laws* 456.

30. Prefixed to advs. and preps.

Also OUTBY, OUTOUR, OUTTHROUCH, etc.

And forthir out forth that the said princes had..varry witting of trouth and leaute that was and is in the forsaid Schir Alexander [etc.]; 1439 *Acts* II. 54/2. Ylk freman sal cast bot iiij dawork of pettis in the 3ere & that viij days to be owtrownd the fyrst ij dawork & the next [ij] dawork; 1547 *Prestwick B. Rec.* 60.

V. 31. Elliptically in *out the gait, out the way*, on or along one's (its) way.

Passand..southwart owt the gait to [etc.]; 1547 *Prot. Bk. Sir W. Corbet* 8. As I was passand..out the way; 1567 *Sat. P.* iii. 2. [Ane] pure blind woman that hes nane to gyde hir out the way; 1621 *Perth Kirk S.* MS. 30 July. Or in the chamber at night or ryding out the way; *c* 1660 *J. Livingstone* in *Sel. Biog.* I. 269.

Out, *prep.* [ME. *ut* (*c* 1250), ME. and e.m.E. *out(e*, f. the adv.: cf. Germ. *aus*, Du. *uit*, id.] = OUT OF *prep.* **a.** From within. **b.** From (a certain source). **c.** (From) outside (of). **d.** Without.

a. Blood That streymand out hys body yhood: *Troy-bk.* II. 824 (C). Or I out this warld pas; *Fifteen Os* 50. Vnto the place the quhilk he first come owt; *Bk. Chess* 2123.

b. Out quich landis that therefoir the magistratis..may use their endevoirs to procure a localitie for the samen; 1658 Butler *Leighton* 297. The haill tennentis..to pey..tuelf peckis out of Lundies and the maynes of Argatie and the vther tuelf peckis out the rest of the barrony; 1693 *Argaty Baron Ct.* 16 Dec.

c. & it hapnyt hyr in hy Oute the house to her gret cry; *Leg. S.* xxvii. 174.

d. Poore decayed widowes..that have leved out publict scandall; 1633 *Aberd. Council Lett.* I. 380.

Out, *interj.* [OUT *adv.*, with ellipsis of the verb: see OUT *adv.* 1 c.] An imperative exclamation.

a. With *harrow, hay, wallaway*, as a call to attract attention while at the same time expressing indignation, reproach or lamentation. **b.** *Out on* or *upon* (someone or something); expressing indignation, reproach or abhorrence.

a. 'Out, harro! Taik and slay!' The hous is wone withoutin brag or schoir; *K. Hart* 375. Schrewitly wald scho clepe and cry, 'Owt harro! matronys, quharso evir 3e be, All Latyn wyfis harkis now to me'; DOUG. VII. vi. 135. Owt wallaway this is the New Test'ment; LYND. *Sat.* 1145 (Bann.). Out hay, quod scho, my ioy, latt be; *Bann. MS.* 141 a/20.

b. Owte! owt! oute apon yhone wyff! Hyr byrth sall brew ws mekyll bale; WYNT. V. 1920. Out on sic gram! DOUG. *Pal. Hon.* 990. Than on the wall ane garitour..Proclamand loud.. Out on falsheid, the mother of euerie vice; *Ib.* 1781. Out on thé, auld trat, agit wyfe or dame; Id. *Æn.* IV. Prol. 106. *Ib.* VI. Prol. 19. Out! out! I schout, apon that snowt that snevillis; KENNEDY *Flyt.* 550.

Outak, var. of OUT-TAK *prep.* and *conj.* **Outakand,** pres. p. of OUT-TAK *v.* **Outakand(e,** varr. of OUT-TAKAND *prep.* and *conj.* **Outaken, -in(e,** varr. of OUT-TAKIN. **Outaking,** var. of OUT-TAKING *prep.* **Outakyne,** var. of OUT-TAKIN. **Outan(e,** var. of OUT-TANE.

Outawing, Owtauand, Outauchtand, -aughten(e, *pres. p.* [AWING *pres. p.* 2, AWAND *pres. p.* 2, AUCHTAND *pres. p.* 1.] Of a debt: That one owes (*to* another). (Cf. the (generally converse) INAWIN(G 2, INAUCHTING.) — He..commits to thame full power to give up all debtes both in-awing and out-awing to him and be him to uthers; 1640 *Kirkcudbr. Min. Bk.* 171. Follows debts owtavand to wthers; 1667 *Kirkcudbr. Test.* (Reg. H.) 10 March. Debts outauchtand; *Ib.* 20 June. Outawing..to Thomas Maxwell..for his rent and ferme thrie great laids of ferme meill; 1679 *Ib.* 28 March. Debts outaughten by me to others; 1680 *Ib.* 27 Oct. Outawing..to John Shinnan a legid dollar; 1682 *Ib.* 6 May.

(Outbering,) Outbeiring, -bearing, *vbl. n.* [BERE *v.*[1] 2, 4.] **a.** Bearing or carrying out. **b.** *fig.* Bearing till the end, endurance. — Payit for redding of the buith of quarrell & outbeiring the same, xxviij s.; 1605 *Tailor's Acc. Bk.* MS. 34. If there be not new strength and furniture there will be no outbearing; DICKSON *Wr.* I. 69.

(Out-bigging,) Out-byggyng, *n.* [BIGGIN(G *n.*: cf. e.m.E. *owtbwylding* (1626).] An outbuilding. — On out byggyngis full gret maistre thai maid; *Wall.* XI. 17.

Outbirst, *v.* [BIRST *v.*, and cf. ME. *outberste* (*c* 1430), mod. Eng. *outburst.*] = OUTBRIST *v.* **a.** *intr.* To burst out. **b.** *tr.* To give forth, emit. — Hir trublit toung outbirsts vith grayt lament; J. STEWART II. 34/154. Quhair birds outbirstit doulcest verblis rair; *Ib.* 76/116. Bot furiuslie outbirstit but remeed Sobs from his mouth and teiris from his eine; *Ib.* 90/365.

Outblawing, *vbl. n.* [BLAW *v.* 3 b.] Public denunciation of a person by or after blowing a horn. — For the outblawing on Schir Richard Chamley; 1503 *Treas. Acc.* II. 385. And incontinent efter the out blawing Schir George and Schir Willam tuke away Schir Jhon Fosteris gudis; *Asl. MS.* I. 218/10.

(Outblede,) Outbleid, *v.* [OUT *adv.* 1, BLEDE *v.*, and ME. *out bleede* (Lydgate), e.m.E. *outblead* (1580).] *tr.* To bleed out. — A vane thairfor cuttit in his body, al the blude of his body is lattne outbleid at the samyn; DALR. II. 95/3.

Outbok, *v.* To issue in belches. — *Christis K.* 177 (see BOK *v.* 1 b).

(Outborch,) Outburch, Uteborche, Huteboruche, *n.* [Cf. ME. *inborewe and utborewe* (1210–12), *in-borwe and ut-borewe* (1278–9).] *Inborch and uteborch*, surety in and out: see INBORCH *n.*

Out-bordouris, *n. pl.* = OUT-BOUNDIS *n. pl.* — The wiffis..were set in cartis on the out bordouris of the campe; BELL. *Boece* I. 126.

Outborn(e, *p.p.* and *ppl. a.* Also: owt-. [Late ME. (Coventry Plays) and e.m.E. *outborn*; and cf. INBORN *p.p.* and *ppl. a.* 1.] Born out of an estate, burgh or country, of extraneous or foreign birth. — And we..sall mak [no] empediment..no distourbance..till our forsaide sistres thrid..no to hir tenandes tharof inborn no outborn; 1381 *Doug. Chart.* 30. That all extranear beggaris owtborne of this towne be remowit thairfra; 1562 *Aberd. Eccl. Rec.* 9. For among the Germanes it signifieth ane stranger, ane aliene, ane outborne or strange man, that is such ane one that hath ane contrarie language from theris; PITSC. (1814) I. xxv.

Out-boundis, *n. pl.* [BOUND *n.*[1] 1; e.m.E. *out-boundes* (1596).] The outlying areas or parts of a place or district; also, the precincts of a building. — The out boundis of Nidisdail; BELL. *Boece* I. xxvii. Seruius..comperit haistelie in the outboundis afore the court [*A.* in the porchis of the court; L. *a vestibulo curiae*]; Id. *Livy* II. 278. That their haill guidis sall pastour wpone the Mounth and out boundis as thaj have beine in vse befor; 1618 *Urie Baron Ct.* 26.

Outbrag, *v.* [OUT *adv.* 19, BRAG *v.* 2: and cf. e.m.E. *outbrag* (1565).] *tr.* To overawe with threats. — The diet approaching of Lethington's trial..the Regent disliking such convocations, and for that he would not have justice out-bragged, did prorogate the same for four months; SPOTSW. *Hist.* (1677) 233.

(Out-braid,) Owt-brade, *v.* P.t. and p.p. **out-braid, -bred, -braided.** [Cf. e.m.E. *outbrayd* (1509) to upbraid, reproach, and BRAID *v.*] *tr.* and *intr.* **a.** To break out into speech, to blurt out. **b.** ? To upbraid, reproach. — **a.** He demandit my answer, quhat I said..Sair abaisit beliue I thus out braid; DOUG. *Pal. Hon.* 685. Id. *Æn.* IV. x. 20 (see BRAID *v.* 2 b). Hir wofull voice no soner had out bred Thais wofull wordis quhairwith scho sorrowed so; *Maitl. Q.* lxv. 137. — **b.** Nor..have I over disdanefullie detracted..laked or outbraided in ony wayis; BISSET I. 77/25.

(Outbraiding,) Outbreading, *ppl. a.* [OUT-BRAID *v.* b.] Upbraiding, reproachful. — For hir out-breading and scaulding wordis; 1655 *Rec. Old Aberd.* I. 92.

APPENDIX 4

Appendix 4 contains examples and analyses of

- an English essay by an L2, third year student
- cognitive problems in science tasks in science communication courses
- writing by L2 tertiary institution union secretary

EXAMPLE 1: the L2 humanities student

The question:

> *Analyse the poem 'Snake' by D.H. Lawrence, in terms of to what extent* [sic] *the poem contains evidence that Modernist poets explore their own personal feelings and experiences and of how their mind* [sic] *and emotions work in the private realm of thought memory and desire.*

The topic is discussed in Chapter 3. The student's problems (in relation to an ideal performance of standard academic English at third year level) are noted here, in the order in which they occured (as they manifest themselves to a marker). Third year English literature courses do not usually timetable space for language support.

1. **Introduction, conclusion and essay structure**. The student does not know how to write a conventional introduction (she repeats the question) or conclusion (she ignores the question). Her essay is structured round a linear reading of the poem, rather than round ideas she might choose to discuss to support her response to the topic. She is insensitive to the conventions of essay writing, and has simplistic notions of the genre and register in which she is writing.

2. **Accuracy and editing**. She writes <Lorrence> throughout. The name D.H. Lawrence has been part of her course, and was printed on the question paper. Her spelling <trough> is standard when she quotes the poem, but she writes <druf> when writing freely. In other words she is unaware of the systemic nature even of spelling.

3. **Direct and indirect questions:** *I will analyse the poem in terms of to what extent does the poem contains evidence that...* This paragraph is influenced by the structure of the original question. The student knows that she should change the syntactic structure, and mistakenly adds *does*, perhaps on analogy with exercises of this kind:

Change the following indirect questions to direct questions:

I.Q.: She asked whether the bus left from there.

D.Q.: 'Does the bus leave from here?'

The lecturer who wrote the question, a first language educated speaker of English, also got this wrong. Strange formulations of indirect questions can be found even in the work of professional linguists. One would expect that those syntactic conventions of academic registers would be known to both lecturers and students, but in a (perceptive) formal article on systemic functional linguistics in a professional American linguistics

publication we find:

> Accepting that there is indeed probabilistic behavior in language, Royal Skousen poses the question of *how should we*[sic] account for this behavior.
> (Webster 2000: 163)

Does it matter that structures are not as we would wish them to be? The student's wording reflects her spoken English, and may also reflect possible change-in-progress. Where does one draw a line between cultural changes, and changes which interfere with semiotic understanding?

4. **Verbs**. *Lorrence point out that*; *Lorrence perceive snakes as*; *The poet manage to give us*. Consistent representation of third person sing. present tense with unmarked ending. She uses a verb system which students whose L1 is Afrikaans often use [1], suggesting that her school learning may have been provided by an Afrikaans-speaking teacher of English rather than a teacher whose L1 was English, isiXhosa or seSotho.

5. **Lexis** *Modernism deliberately moved from the obvious and expected, towards experiementation and their work is* full shock *to the reader and audience*. How does one teach second language students to select from appropriate lexical sets? How does the student learn to choose *Their work was a* complete *shock* and reject *Their work was a* full *shock*? *Full* and *complete* might seem to be interchangeable members of the same lexical set. They happen not to be. Second, the marker corrects *Their work is full shock* to *Their work is meant to shock*. This correction (a) brings in a new idea not intended by the student (b) moves the correction from the system of qualifiers (in which the mistake was made) to the verb system.

6. **Spelling**. She writes *strine of consciousness*, *vivitly*, *exzotic* (p.1); *revalgen*, *glatter*, *druf* (p.4). These spellings suggest that she has no visual memory of the word as *gestalt*, but an aural memory of the spoken word. *Strine of consciousness* suggests that she is remembering learned ideas from a lecture, not from research or reading. She is therefore attempting to reproduce formal written academic English from a knowledge base of spoken, formal or semi-formal English. The metaphor which informs the concept has as a result been lost to her — can one understand the technique of stream of consciousness without access to the analogue of a stream? And what does she see as a referent when she *hears* /straɪn/? Perhaps she 'sees' string, perhaps nothing — learning has not made sense in the past, and is perhaps not expected to make sense now either, but is something you do in order to pass.

This problem has consequences for the semiotics of learning. For example for L2 students 'the sea as image or topos' or 'the river as an image' will mean what a lecturer immersed unconsciously in the tropology of Christian education says they mean, not what students whose ancestors inhabit the rivers of the region know about their rivers.

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[1] Features of this system are 1st, 2nd, 3rd sg. , 1st, 2nd plur. present *point*, 3rd plur. (only after noun, not pron., and after relative clause interposed between subj. and vb.) *points*.

> Values associated with the culture of a speaker's native language are carried over into the foreign language and culture.
>
> Brown *et al.* (1994: 81)

We condemn our students to silence by cultural and linguistic assumptions. How can they decide which levels of the linguistic system of English should make sense to them, and which levels they must simply memorise?

7. **Words and reality**. Literary metaphors are culture-bound, having different resonances in different languages. Lecturers in English interpret words in written contexts as topoi participating in universal religious and moral contexts. The writer of this essay tries to place the snake as symbol into this learned context, but she cannot distinguish between words which function as images or symbols, and words which simply represent 'reality'. She writes *the image of the tree can evoke a sence of smell and coolness...* (p.1). For her (or for the critic whose work she has read) this is an image because *tree* is not a 'real' tree but a word, which represents a tree. One might suggest, to both student and critic, that *snake* is a symbol in this poem, but *tree* is not. *Tree* is a symbol however, in *Paradise Lost*. Why? The whole context of situation of the poem, in terms of domain tenor and mode, would have to be understood — an excursion into the intertextualities of English literary history — before the strange case of the difference between *tree* and *snake* in Lawrence and Milton could be explained.

At the other extreme, students and teachers may fail to see the words on the page at all, and look straight through them, unanalytically, to the ideas behind, ideas suggested by the cultural situation of the reader not the cultural context of situation of the poem. This equally leads to semiotic distortion.

8.**Syntax**. On page 3, the lecturer has written 'confused'. If one tries to translate the meaning or intention behind the student's effort into standard English, her sentence might read something like the following:

> **D. H. Lawrence is on the point of directing questioning of the underlying foundation and propositions [of] the structure of Western society and culture. He is challenging the accepted and conventional truth about Western society and culture. According to the beliefs of the Western Culture the snake must be killed.*

The idea expressed here would be acceptable at this level. Throughout her essay the student handles complex structures and concepts, which are marred by the fact that she is drawing upon aural rather than verbal resources. The resources which are accessible to her as a second language student are more restricted than those available to a first language student.

9. **Articles.** She uses *the* and *a* more successfully than most English second language students, although she writes *the Western Culture*. Her success in this system would reinforce the notion suggested by her verbal agreements that she has had an Afrikaans school teacher rather than a Xhosa or Sotho teacher, since Nguni languages use a

different deictic system.

10. **Or**. Where a first language reader expects *or* to join nominal groups, she uses *or* to join clauses, with the sense of 'putting it another way', rather than 'either...or'. Xhosa speakers interviewed in English on television, or when making speeches, use *or* in this way to redefine or add precision with an accretion of differently phrased explanations for the same thought.
For example;

> *He is against the attacking and killing of animals by human being or human domination on creatures like snake is not accepted by Lorrence.*

Here a first language speaker of English would anticipate some other predator in a list of possible predators, but is presented with a periphrasis instead. The anticipation is based on past experience in similar contexts in similar registers — not on knowledge of the rules or metalanguage of linguistics.

11. **Transitivity**. *The speaker bitterly regret at his action* (Page 4)
Possible constructions are: is full of regret at / is aghast at / winces at — but not *regrets at*. This is a question of selecting from what a first language speaker of English would (unconsciously or instinctively) feel was the wrong verb group (groups which take direct or indirect objects, and groups which can or cannot correlate with *at*).

12. **Presentation (mode)**. Neither the student, nor, judging by the question, the lecturer, has considered the roles played in meaning construction by syntax, eye design (layout), metrical concerns.

13. **Description and explanation**. Discourse style and register in Lawrence's poem are described but not explained as *a style which is ordinary and everyday language, a language which is not difficult to understand* (page 2). The difference between description and explanation is difficult to teach to large mixed-ability groups. It is just as importnat for humanities students as for science [2]

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[2] The difference between description and explanation defeats many students. For example, student writers misuse the word *because*, following it with a description from the same level instead of an explanation from one level up. This problem is important for students in both the humanities and the sciences. In literary criticism, the request 'Discuss Prufrock's uncertainty' can be answered in terms of the surface of the poem 'The Love Song of J Alfred Prufrock': 'J.Alfred Prufrock is uncertain *because* he does not know where to go' or in terms of the context of situation of the poem: 'J.Alfred Prufrock is uncertain *because* he represents the common man whose faith has been subverted by...' The student who cannot distinguish between the first level and the second is at a disadvantage. In a science foundation course the question (based on an Open University film about lightning) 'Explain how lightning strikes the church tower' was answered by several students as 'Lightning strikes the tower because you can see the tower break' instead of 'lightning strikes the tower because the build-up of negative ions on the lower side of the cloud induces a build up of positive ions on the ground, which...' Description

14. **Discourse and register**. Other students in the same group also attempt unsuccessfully to pick up the register of academic writing about novels or poems. One writes (on E.M.Forster's *A Passage to India*, July 2000):

> *Britain acted herself as Partenal* [paternalist] *and a father and India as a child who is lessened by her father and India is inferior. British is interested in the economy of India whilest India wanted to free themselves from the British Empire. Friendship across cultural and cultural frontiers is impossible because India is not happy about the standard of living with the whites. The Anglo-Bitish overpowered Indians and treated them as 'others'. British whites said that Indians are barbaric corrupt and lawless.*

The student uses the notion of paternalism from the discourse of post-colonial studies. She sees no confict between paternalism, and her use of *she* to refer to Britain. . She imports terms from the discourse of late 20th century South African politics - *standard of living*, *the whites* - which are not part of the discourse of writing about modernist liberal humanist novels, and she does not have the sophistication to recontextualise her terms in a new discourse, for example that of deconstruction. She too confuses description and explanation, in reverse this time, when she draws upon explanations from postcolonial studies to describe *the whites* in *A Passage to India*. The word *said* implies that in the context of the novel some character said the words *Indians are barbaric corrupt and lawless* when in fact those words belong to another discourse. They function in her text as description when in fact they belong to the level of explanation and analysis — one level up. This student is using (and abusing) discourses which are inappropriate to the situations in which she will function as a a competent professional woman in 2001.

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In addition to these individual problems, the English of L2 students of English is influenced by the phonological and grammatical systems of their L1. For this reason regional variations in language support needs are important. The help an Afrikaans student will need is not quite the same as that which a Xhosa student needs. But there is still a *finite* number of specific problem areas, very small in relation to the commonalities of formal academic English. The examples which follow are from third year exams, July 2000, unless otherwise stated.

1. **Pronouns**. Students whose L1 is isiXhosa [henceforth Anglicised to Xhosa] have difficulty remembering the rules governing masculine and feminine pronouns in English, which work differently from those of Xhosa, so that students write *The young man*

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operates on the same level as the question. Explanation operates at one level up.

spoke to her mother, *The young woman spoke to his father*, *Ronnie Heaslop is sitting with her mother*, *Gerardo wants Roberto to be untie* [sic] *by her wife* where the sex of the speaker and of the pronoun is clearly the same.

2. **This / these**: Xhosa does not distinguish, as English does, between long and short vowels, and so Xhosa speakers of English find it difficult to distinguish between the pronunciation of */this/* [ðɪs] and */these/* [ði:z] — the two words are both pronounced */these/* [ðiz] or [ðis], and as a consequence, hypercorrection takes place in the spoken and written English of educated students leading to usages, both spoken and written, like *this politicians* (spoken, Tim Modise Show, July 2000), or *Gerardo could not accept this accusations*. The phenomenon is complicated also by the fact that Xhosa speakers of English use *this* as a marker of disapproval, as in *this DP Alliance*, *this communication courses* (Spoken, Ib. June and July 2000).

3. **Articles**. *the*, *a*.
3.1 The distinction does not exist in Xhosa, and is complex in English, so confusion arises between count and non-count nouns.
3.2 Xhosa *u* is sometimes translated into English as *the*, which is not used in Standard English before proper names. Its use in English by Xhosa speakers, and recently by student writers, is growing in frequency. For example, *uMandela*, or *the Njoroge* (Ngugi's *Weep not Child*), or *the Okonkwo* (Achebe's *Things Fall Apart*). This usage extends to approved-of male figures who are not Xhosa, for example *uDorfmann*, *uAchebe*, but never *uForster, and it is not (so far as I know) used for women even when approved of. But one hears *iTony Morrison*, *iBessie Head*. In July 2000 on Radio SAfm, a spokesperson (male, first language Xhosa speaker) spoke of *the Yasser Arafat*.

4. **Lexis**: Spellings based on aural rather than visual knowledge of English are frequent. *The Eastern people in Chandrapore lived in* <u>*scottercamps*</u> (Third year exam, July 2000). The word also reveals incomprehension of the historical context of Anglo-India in Forster's *A Passage to India*. In addition, students create words and phrases of their own, much as children do when learning to speak; but the students do not have access to parents gently repeating the standard formulations. Some recent examples (from third year exam, July 2000) are:
Here Paulina <u>*gunpoints*</u> *Roberto*
The rural farmers were left <u>*barelanded*</u> (by analogy with *barehanded, bareheaded*)
People like Paulina and others who were <u>*human rights violated*</u>.

Problems specific to Afrikaans students:

5. **Verb agreements**. Particularly when the verb is separated from a plural subject, agreement tends to match the nearest noun, even when it is not part of the same clause. (See also point 4 of the essay analysis above). English speakers however also find this a problem. It is possible that a new, variable, rule of concord is evolving — or that the laws governing concord are more complex than most lecturers are willing to accept. There is no obvious argument for insisting on correct concord agreements, except the one put forward by Quirk (1990:9) that 'it is a travesty of liberalism to tolerate low standards

which will lock the least fortunate into the least rewarding careers'. It is clear that concord uncertainty does not affect intelligibility, and should probably be interpreted as part of the natural evolution of English. Jeffery (1993:14-25) offers a full discussion of standards.

6. **Register**. A second problem Afrikaans students of English present (and share with other L2 students of English) is an inability to distinguish between the registers appropriate to popular magazines and to academic essays, perhaps because they do not read academic writing, or produce nearly enough original writing in their academic careers. Although levels of formality are dropping, academic disciplines tend to the conservative, and even to the latinate, to the extent of correcting 'nice' and 'very'.

Problems presented by students who use English as a second language, regardless of the first language:

7. **Been / Being**. These two words come together as *been* for many L1 and L2 South Africans, as in *Paulina is been tortured and raped.*

8. **Past Participles**. Many L1 and L2 speakers and writers of South African English are unaware that past participles end in *-ed.* This development is perhaps also to be interpreted as part of natural linguistic evolution?

9. **Modals and subjunctives**. Students wrote *If Aziz was someone who is superior like Heaslop that case must not be taken to prison* and *Roberto would have protected Paulina from being victimised, but instead he rapes her.* Verbs are used here unsystemically and inconsistently, and so should be considered as 'errors' and not as symptomatic of language change. It would be difficult, though not impossible, to include a useful account of verb systems in a support course. Is the meaning distorted by the anomalies? If these students *were* ever in a position to publish work, where those verbs would matter, and the scenario is not an impossible one, they would have access to readers or editors.

10. Syntactic structures. Many students struggle with sentence stuctures, without the resources of grammar to help them understand the composition of acceptable and non-acceptable[3] clauses. Syntax and sentence structure cause problems for almost all students who do not read. There are several typical problems: (1)incomplete sentences (2)two sentences joined into one (3) ramblingly incoherent sentences (4) other, where word

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By acceptable, I mean the kind of English with which educated speakers in an English speaking community feel comfortable. 'Acceptable' English usage is usage, in a country in which English is (one of) the official language(s), which conforms with English spoken or written by users who have reached a post-secondary schooling level of education in that country. This definition is used by The International Corpus of English Project (Greenbaum, London University) as the criterion according to which texts are accepted in the various categories of the various corpora. The definition begs many questions which are under discussion, but conforms to the reality of the situation in which language support courses must be provided.

order expectations, or the logic of conjunctions, are disrupted . The first two problems can be remedied more easily than the latter. Here is a typical example written by a Xhosa-speaking L2 student at third year level:

> *Paulina was silent for many years but at the end she manages to speak <u>because</u> she was raped or tortured by this guy for many years, at the end she breaks the silence <u>because</u> she overpowered him <u>whereas</u> she was using the power of a gun <u>but</u> she manage to dehumanise her victimizer, she made him to become silent, bringing his dignity down, <u>and</u> when he wanted to go to the toilet he takes him there.*

There are of course several problems here, but only the mis-used conjunctions have been underlined: lack of understanding of their *semantic* force has produced cognitive incoherence.

> The theme [of a conjunction] has to be interpreted as a *meaning*, rather than as this or that particular item that realizes the meaning; the theme of a clause beginning with *but* is not so much the word *but* as the meaning 'contrary to the expectation just set up'...some part of the total thematic potential in the message is as it were 'used up'when we assign a clause a particular status as co-ordinate or subordinate to another one.
>
> Halliday (1985: 52)

Because is not followed by an explanation; *whereas* is not followed by a contrasting idea; *but* is used instead of *as a result / in consequence*; *and* is not followed by a similar construction to the one before it, and it is also not followed by a clause which intensifies the effect of the preceding one, but one which provides bathos instead.

11. **Logic and Word order.** The next example, also from an essay on *A Passage to India*, expects meaning to be produced by a structure which does not provide it:
If Aziz was someone who is superior like Heaslop that case must not be taken to prison.
The impossible prospect of a case being taken to prison does not disturb the writer.

Word order creates problems for L2 students. In some examples of misplacement the sense is clear even when logic is abused:
The government is undermining the benefits of hardwon *public servants*
(spoken, SAfm, June 2000, Tim Modise Show).

In examples of complex word order, the order of qualifiers in a nominal group is opaque for a second language learner. Take for example Dickens's description of Riderhood as the *Plashwater Weir Mill lock keeper* (*Our Mutual Friend*, Book IV, Chapter 1, line 1). In order to know *why* those words form that sequence *and no other*, one has to know the 'meaning' of all the elements in the chain. One needs to possess a mental image, probably not available to second language students, of the spatial relationships in the real world and the real situation, among what is represented by the words *weir*, *mill* and *lock*: the lock in question is the one beside the mill as distinct from others up or down

river, the mill in question is the one beside Plashwater Weir, and so on. You would not find the right lock if you looked beside other mills, or the right mill if you looked beside other weirs, and you also would not find (necessarily, but only contingently) a mill beside a lock - mills need weirs but they do not need locks. Second language students can read *Our Mutual Friend* without knowing anything about this, but when they write about the book they then have to remember by rote the sequence of the qualifiers.

Finally, language cannot mean without cognitive understanding of 'reality'. Language can give the illusion of being grammatically correct. It may (1) offend the possibilities of collocation (2) be unplanned and therefore unstructured and random (3) be structured, but lack pointers to indicate the process of an argument (4) be logically flawed, using premisses which do not provide the conclusion which is asserted. These aspects of writing are also part of academic formal English and need to be mastered by all students.

EXAMPLE 2: Mixed L1 and L2 science students [4]

Task 1

Imagine that you are the director of Koeberg Power Station, and you have been asked to defend the production of nuclear power to a group of people from a 'green' party, who will also put their point of view. Choose the side that you wish to support and write the speech you would make to persuade an audience.

The task ignores

- the fact that the language used by the director of a nuclear power station when speaking to non-scientists will not be the same as the language he would use when interacting with colleagues or thinking about his work
- the differences between written language and spoken, between motivational speech and reading a text

The task involved

- reading and analysing the articles
- sorting the points of each argument, and tabulating them (taught in lectures)

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[4]The language of science is discussed in Appendix 5

- translating the ideas into their own words
- choosing the position they would argue from
- understanding speech type as a register
- writing a well-constructed speech

Results:
Students who play advanced computer games did not seem to understand what they were being asked to do.

The assessment method ignored grammar or spelling or syntax, except where errors clouded the communication of meaning completely. Only one student managed to write a convincing speech, in the form and language of a speech. Some listed points — first, second, third..in a routine but unstructured manner. Some claimed that the task was impossible because they were students of geography or chemistry, not physics, even though they had access to factual materials. Several students listed the advantages and disadvantages of nuclear power or of renewable or non-renewable sources of energy, because that was what had been discussed in lectures, without transferring what they had learned to the new context.

Diagnosis

Students are unaware of who they are writing for. It is apparently difficult for them to imagine an appropriate audience and construct appropriate language — they write for the lecturer, and even miss out steps and explanations which they know from lectures that the lecturer knows already. In general, students tried to remember and regurgitate what they had heard in lectures rather than apply the information to the new task. Some students tried to hand in a summary of one of the artciles, despite explicit instructions, because that was what the students in the previous year had been asked to do.

Students did not seem to feel personal involvement with the topic. I felt that this topic, and topics such as water affairs, and ozone depletion, 'matter', although I did not privilege my own ecological positions. Perhaps the debate had no relevance to the jobs the students saw as their future, working at Dulux Paints, or Algorax or Carbon Black. They appeared not to connect one environmental argument with another, or with their future jobs, or to make connections between their own lives and the South African environment, or the South African energy supply.

Three years later, some of those same students have reached honours level in physics, and are working in the field of renewable energy. It may be the case that arguments which are not understood at early stages lie dormant and mature later.

Task 2

In an exam situation the same students of science communication were given a more complex task. They were provided with referenced copies of source materials (which they had already used in lectures). The task was:

Write a report in which you assess the advantages and disadvantages of nuclear power.

The task involves

- re-reading and analysing the articles
- organising the points of each argument
- translating into their own words
- tabulating the points of both arguments in parallel
- sorting the information to fit the format of a report
- writing a well-constructed report
- adding a bibliography

This second task built on the first, and the first built upon materials already discussed in lectures. Students had been taught to plan a debate-type argument by creating a table with one column for each side of the argument. The rows of the table contain each step in the argument. Each row will be expanded to fill in two paragraphs, one for each side of the debate. The report format will be built round this core.

Analysis of results: Very few students remembered in exam conditions to create a table as a plan. Most wrote garbled and disorganised recollections of the speech they had produced as Task 1. More female students than male created a plan and used it to write from. Most students began writing at line 1 of the abstract of the report, and continued through in order till they reached the last section, recommendations, despite having been taught to plan the investigation section first and write the abstract only after all the rest was complete. English grammar and syntax was adequate, but communicative abilities and organisation and cognitive abilities were poor. Most students nevertheless passed the course because their English was grammatically acceptable.

Students were perhaps tacitly aware that they would not be failed in this low prestige course, if they passed chemistry and physics. They knew that even if their report was unplanned and disorganised, their English grammar and spelling were good enough to pass them. Both they and the science lecturers who asked for the course had a different perception of the purpose of the course compared with my own: while I crossed the boundary into what I hoped was 'their' territory by providing background knowledge using film, journalism and text, the science faculty contradictorily, crossed the boundary into what they perceived as my territory, wanting their students to learn 'to express themselves' with grammar and syntax. They feared humanities 'waffle' and academic development theory (without knowing what my position on these was). The two sides did not discuss perceptions of the course. At first, neither side recognised that there was any mismatch.

There was no point failing students in this compulsory communication course unless they demonstrated that they could not write English at all, because they would be promoted in science, would not repeat the communication course, and would thereby demonstrate to the next intake that the course was futile.

Conclusion: the course added value

Students were exposed to information they did not know, and should have known, such as environmental topics, evolution, astronomy and cosmology, writing strategies and skills, and learning methods. Knowledge cannot be wasted. The fact that they did not seem to be capable

of analysing the information did not mean that they had not absorbed any of it. The fact that many graduated as physicists and chemists would suggest that the discursive practices which they could not perform did not impact on their success or failure. Their mathematical performances at first year level, however, did correlate with their later performances in physics.

This course could have been successful if the goals and methods had been discussed, if the science faculty had provided or endorsed content, and if the course had not been used as a weapon in transformation struggles.

EXAMPLE 3: Poster created by an L2 academic union member

A poster circulated by a tertiary union is reproduced below. The points raised already — lack of editing, of coherence, of sense of audience (*you* sometimes refers to management, sometimes to academic staff); lack of understanding of the difference between spoken and written English; lack of knowledge of how to check on grammatical, syntactic or spelling points; lack of understanding that presentation, layout, coherence, design affect the efficacy of the message; lack of awareness that the source of the poster should be acknowledged, that writing should be signed.

EXAMPLE 1

(1)

In this essay I will analyse the poem by D.H Lorrence 'Snake' in terms of to what extent the poem contains evidence that Modernist poets explore their own personal feelings, experiences and of how their mind and emotions work in the private realm of thought, memory and desire.

D.H Lorrence points out that the conceptions of the relationship between human and animals existence is of fundamental one. Lorrence, in his poem snake vividly perceives snakes as creatures in their own right with a illegitimate rights of their own. He is against teaching of the society which snakes are taken as enemies and dangerous creatures. He is against the attacking and killing of animals by human being or human domination on creatures like snake is not accepted by lorrence.

The poet managed to show how modernist writers of 20th century developed stream of consciousness technique and how human mind and emotion work in private realm of thought, for instance the poet from the first 4 lines of the poem manages to give us the atmosphere which is strange and exzotic, she also give us images which are sensual. The image of the tree can evoke a sense of smell and coolness. The coolness of water drut and ceramic picture contradict with strong heat of the days.

Spelling!!

To refer to the first Paragraph the poet has used a style which is ordinary and everyday language, a language which is not difficult to understand. It seems as if this is a monologue poem, in which the speaker speaks alone, while the audience listens

Modernism deliberately moved from the obvious and expected towards experimentation and their work is full shock to the reader and audience. Experimentation to him is that creatures are harmless for example ever will be shocked according to western culture for exampl in Sicily everyone will be shocked according to the manner she shows respect. for instance line 6 says, "And must wait, must stand and wait, for there she was at the trough before me". This line proves the respect the poet has for th Snake. Within this line she also personifys the snake by giv it the pronoun she. The poet gives the snake quality of a human being because she am is not attacking the snake, but she is on the point of considering the dignity of the snake.

spelling

When she uses the words "thraught", "seeped", Snake mouth, softly drunked and straight gums she reflect the qualities of a dignified person at snake. The word Someone in line 14 is again suggesting the dignity wh the speaker accords to the snake. The fact that he is prepared to wait for the snake while drinkin water. The poet is feeling free to explore ways of showing this personal feelings and experiences as other modernist writers did.

Not a sentence! Where's verb??

quotation marks

In line 22 to 34 the speakers questions his own reaction towards the snake, he was aware that society have taught them to be aware of snakes, as the society snake are dangerous creatures (S) and seen by a man. It must be killed. The use of the word "confess" in line 27 which says, " But must I confess how I liked him? Shows that the poet admires (S) the snake and admits that his reaction is not what society would approve. As it can be seen in this poem like modernist writer, his work were created to challenge their audience and readers into a new awareness of the world. In his contemporary / core-temporally literature D.H. Lorrence is on the point of directing questioning of underlying fundation and proposition that form the structure of western society and culture. He is challenging the accepted and conventional / conversional truth about western society and culture. According to the beliefs of the western culture snakes must be killed.

In line 35-40 the speakers admits that he is afraid of the snake in other words he is against the idea of killing a snake to became or prove manhood manhood He reject the characteristics of man that of heroism on creatures. His reference to the voices in line 35 that says, "and yet those voices, if you were not afraid you would kill him" indicate how powerful the propaganda of society is. His feelings towards the snake is so positive. The word "pervesity" (S) adds to his feeling, he is wondering if he is different from others or from the western idea.

In line 54 to 61 the poet reflect(s) to us as the Snake start moving back Slowly into this hole. The speaker for the first time feels a sense of horror for example the place where the snake lives is reflected as the black hole which does not go with it given qualities as a result of this she allowed himself to admire the creature instead of fearing it. This is the turning point, because the relationship between the Snake and the poet diverged. This could be the result of voices of Speakers human education, they have defeated him. The voices are victorians because the poet decided to pick up the piece of rough wood and throw it with a glatter. The Speaker is so overcome with revulgeon. The process of shaking violently done by the Snake, everything now changes the creature that was so dignified now became undignified.

In line 62 to 73 the Speaker realize that he has committed a serious act and bitterly regret at his action she ~~this~~ wishes to see the Snake back to the water hut. The Snake Need to be there like a king to him The Snake is given more dignified quality of humanbeing the ~~departm~~ departme of the Snake is given the qualities of high status. The poet blames himself and the kind of education she which she has Submitted.

To conclude I can say that I have shown the way that the poet explore his feeling experinces and emotions for example in

the poem the man has a positive attitude towards the Snake. However the norms, beliefs and values of the culture she is socialised into does not agree or contradict with his behaviour towards the Snake.

50 You understand the poem but your writing is in desperate need of improvement. Use a dictionary to help spelling - even in the exam, especially in assignments

5

EXAMPLE

TO ALL STAFF MEMBERS

WHY ARE THEY CONSULTING WITH STAFF WHILST THEY ARE NEGOTIATING WITH UNIONS?

CAN THE MESSAGE WhAT THEY WANT T0 TELL STAFF NOT WAIT FOR THE I 2'th April 2001.

THEY ARE GOING TO MEET UNIONS OR WHY THIEY DON'T PUT IT ON THE NOTICE BOA RD AS THEY USE TO DO.

AS THE UNIONS WE SAY:

WE ARE NOT PART OF THESE MEETIINGS

ANY EVENTUALITY THAT MIGHT OCCUR WILL BE MANAGEMENTS OWN BABY

OUR PEOPLE HAVE UNIONS AND AS SUCH THERE ARE NEGOATIONS GOING ON

START RETRENCHING TOP MANAGEMENT TO SAVE MILLIONS

TELL US ABOUT THE RENEWD CONTRACTS OF SENIOR MANAGEMENT.

HOW MUCH IS WAISTED ON DENEL (IT 001 SOURCED) ?
WHAP HAPPENED TO THE SENIOR MANAGEMENT INCREAMENT. CAN YOU BE TRUSTED.

TO ALL STAFF

DON'T ATTEND THIS MEETING CAUSE THE DIRECTOR WON'T ANSWER ANY QUESTIONS.
INSTEAD, AFTER TELLING YOU WHO IS GOING SHE WILL THEN FLY AWAY LIKE PETER THE BIRD TO PRETORIA

BOYCOT BOYCOT BOYCOT

EXAMPLE 3(b)

The Department of Sport, Recreation, Arts and Culture in partnership with the Western District Council, the Port Elizabeth Municipality, PE Tourism and SA Breweries will be hosting Heritage Day Celebrations. These celebrations will be held at the Wolfsons Stadium on the 24th September 2000, commencing at 09h00 am. The Theme for this year's celebrations is Promoting Multilingualism in South Africa.

- On Friday, 22nd September 2000, a Pre Heritage Tour will begin from the Edward Hotel, at 10h00, finishing at 13h30 at the same venue (enclosed ' please find the tour route). The aim of this tour is to advertise Heritage Day Celebrations and to highlight and promote some of our Heritage Sites in Port Elizabeth.

- On Saturday, 23rd September 2000, a Launch of the Heritage Day Celebrations will take place at the City Hall, commencing at 18h00.

- 24th September 2000. The programme of the day will be packed and exciting, starting off with a parade at 8h00 from the Centenary Hall, taking the Moduka and Maqanda Streets route. There will be stalls operating parallel and complementing the activities on the central stage, in these stalls different communities will be showing off their heritage, in the form of dress, cuisine, etc. Mr Stompie Mavi who was born in Queenstown, and is now a National celebrity will also be performing, backing him will be a conspicuous Jazz Group from Port Elizabeth called the 4x4 (enclosed please find a detailed programme).

On the 24th of September, South Africans will get an opportunity to view and appreciate their inheritance and as a Department we firmly believe that Heritage Day Celebrations will lend practical dimensions to the concept of multilingualism, instilling in the minds of our people a notion that South Africa is a truly linguistic diverse country.

HERITAGE DAY CELEBRATIONS 2000

PROMOTING MULTILINGUALISM IN SOUTH AFRICA

DATE: 24 SEPTEMBER 2000

VENUE: WOLFSONS STADIUM

FEATURING: STOMPIE MAVI

&

THE 4X4 JAZZ BAND

TIME: 09h00

HERI-2100

- sentence structures

- qualifiers

In this context, do those traditional grammatical & syntactic points matter: or is this a vibrant example of Black South African English?

APPENDIX 5

1. Screens from Jonker and Jeffery 2000 *English for Everyone* Cape Town: Pearson Higher Education.

   Menu and Navigation are on the left of each screen.. and status or position in the overall scheme is on the banner at the top. User location is marked by colour change.

   The demonstration web site is http://www.e4e.co.za

2. Examples of images of web design and internet architecture. The attributions are on each screen. See Dodge. M. *The Atlas of Cyberspace*. Addison-Wesley. forthcoming. and http://www.cybergeography.org/atlas/

ENGLISH FOR EVERYONE

START

INDEX

HELP

CREDITS

Version 1.0

E4E

TUTORIAL

Home
Books / Films
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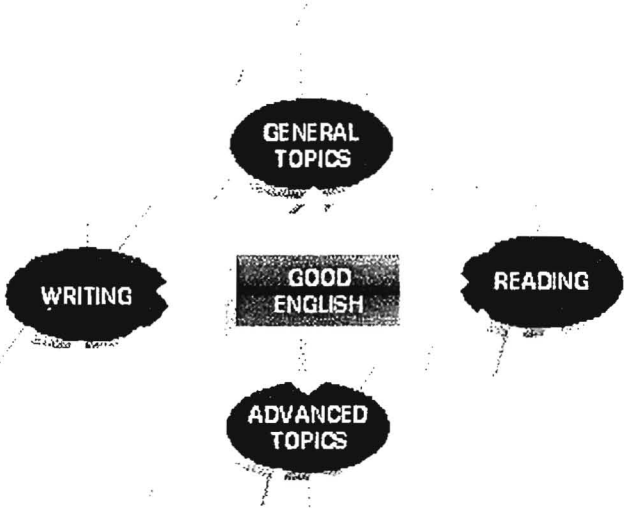
Credits
Help

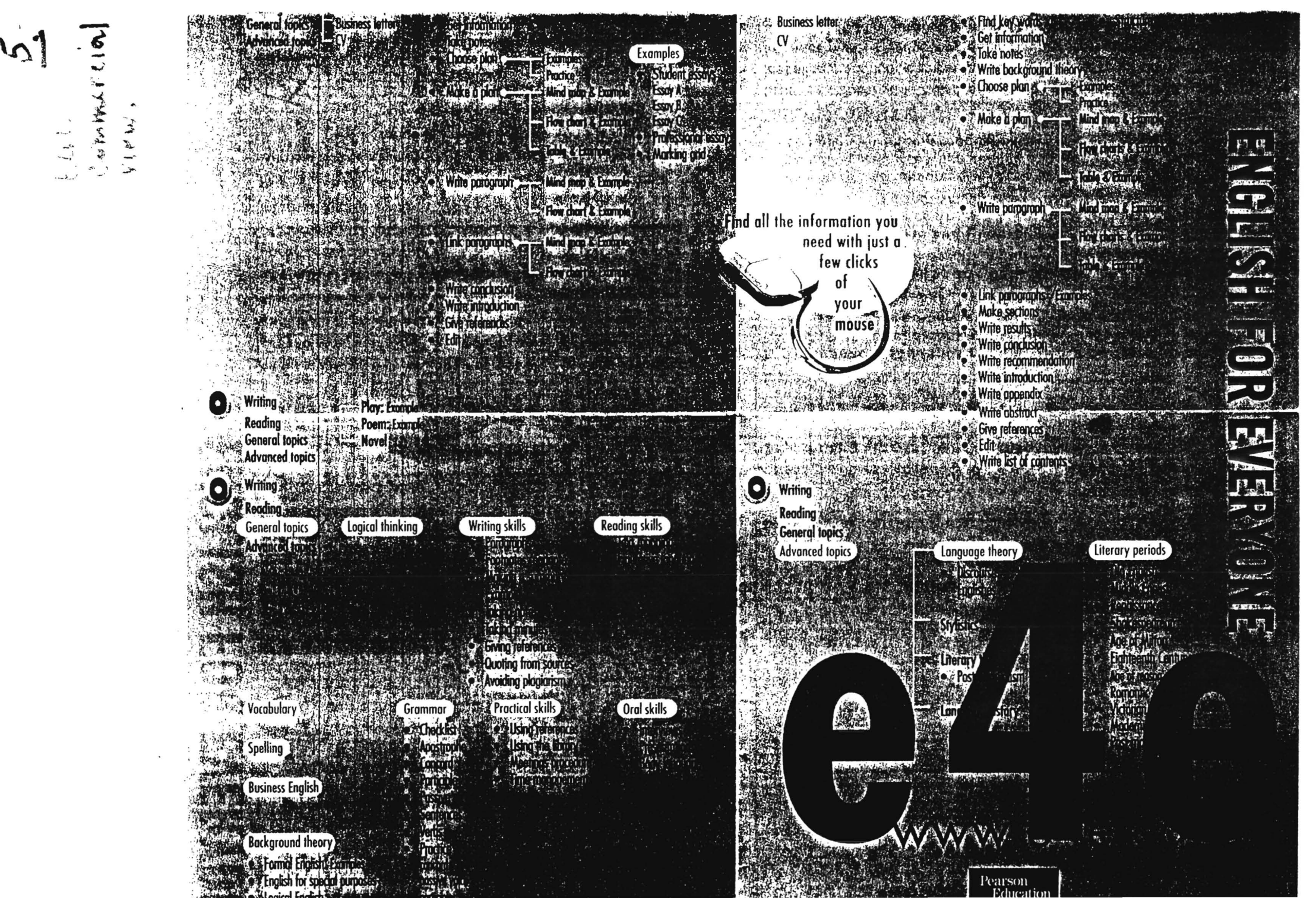


This image of the core of **E4E** shows its web-like structure through which users can select many different destinations and choose their own paths.

E4E is designed to make navigation easy, as you will see when you look at the tutorial ...

START TUTORIAL

E4E WEB


ENGLISH FOR EVERYONE
e4e
www
Pearson Education
Find all the information you need with just a few clicks of your mouse
Writing
Reading
General topics
Advanced topics
Logical thinking
Writing skills
Reading skills
Vocabulary
Grammar
Practical skills
Oral skills
Spelling
Business English
Background theory
Language theory
Literary periods
Business letter
CV
Examples
Practice
Mind map & Example
Flow chart & Example
Table & Example
Write paragraph
Link paragraphs
Make sections
Write results
Write conclusion
Write recommendation
Write introduction
Write appendix
Write abstract
Give references
Edit
Write list of contents
Play: Example
Poem: Example
Novel
Giving references
Quoting from sources
Avoiding plagiarism
Checklist
Apostrophe
Using reference
Using the library
Formal English: Examples
English for special purposes
Stylistics
Literary
Age of Reason
Romantic
Victorian
Modern

3

WRITING

Home
Books / Films
Index
Credits
Help

HOME MENU

Writing
Reading
General topics
Advanced topics

We write differently for different purposes, and we also speak differently from the way that we write, so first decide what kind of writing you want to do.

NOTE :

If you want to use this program to help you with your writing, use your last essay or report, or have ready the topic of your new one. You can't write without having something to write about!

I want to know about writing

- an essay
  - write an essay
  - find out what went wrong with my last essay
- a research report
  - write a research report
  - find out what went wrong with my last report
- a CV
- a business letter

TOP

E4E WEB

4

WRITING A RESEARCH REPORT

Home
Books / Films
Index
Credits
Help

NOTE :

- Before you start writing, first look at the format of a research report.
- As you prepare your report, follow the writing process though step by step (use the Back and Next buttons)

RESEARCH REPORT

Format
Writing process
Problems
Example

WRITING

Essay
Research report
Business letter
CV

Here are the **steps** of the writing process for research reports.

1. Find out what to write about by looking for the key words
2. Get the information
3. Take notes
4. Write the theoretical background
5. Choose a plan
6. Make a plan
7. Write paragraphs from your plan
8. Use signpost words to link paragraphs
9. Use numbering systems / headings to make separate sections
10. Write and discuss the results
11. Write the conclusions
12. Write the recommendations
13. Write the introduction
14. Write the appendix/appendices
15. Write the abstract
16. Give references
17. Edit your work
18. Compile the list of contents

Start the **writing process** ...

If you want, have a look at an example of a complete report. To see a complete thesis or mini-thesis, ask your librarian or lecturer.

TOP

E4E WEB

5

GENERAL TOPICS

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HOME MENU

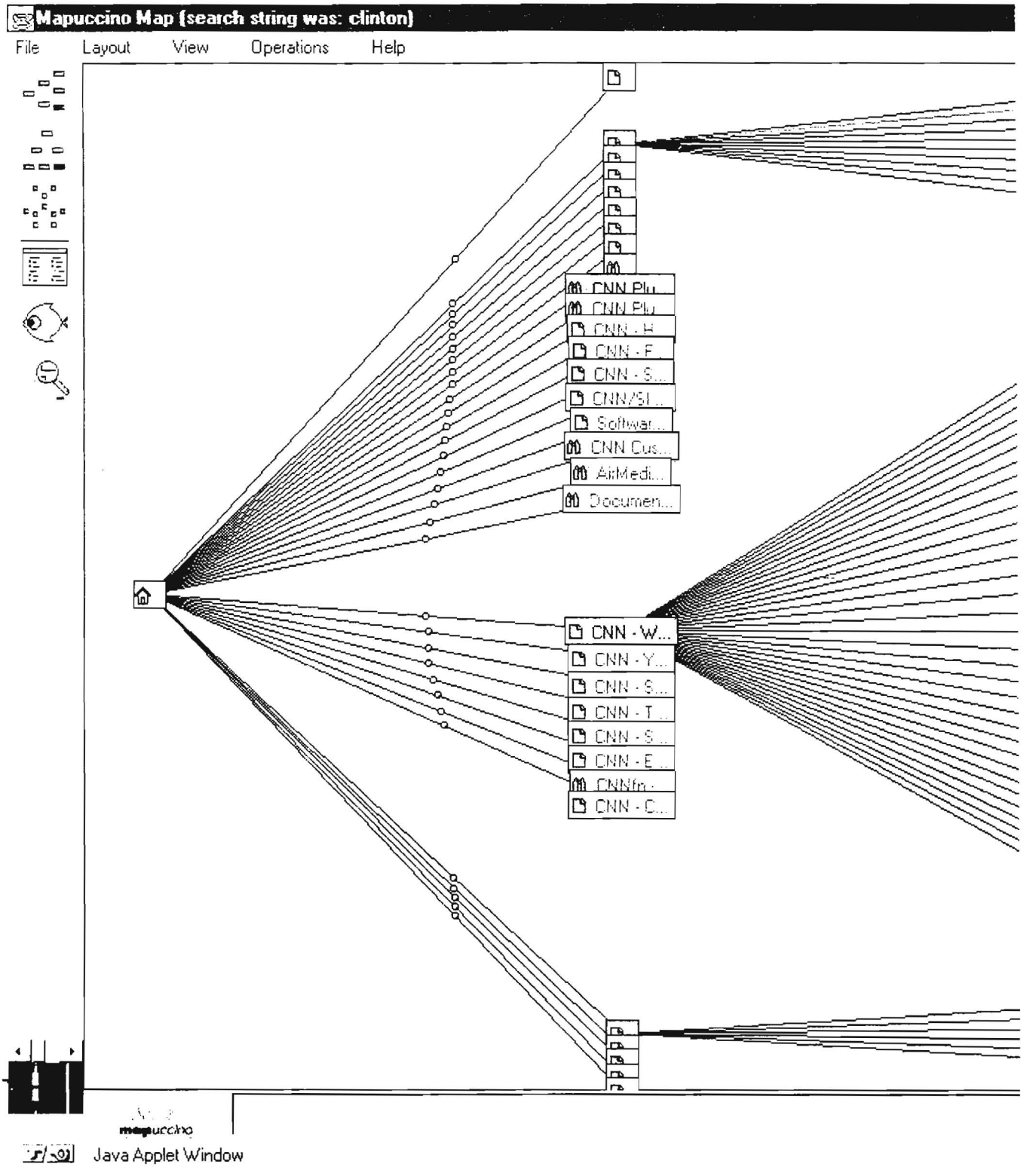
Writing
Reading
General topics
Advanced topics

I want to know about

- logical thinking
- writing skills
  - paragraphs
  - writing footnotes / endnotes
  - making a summary
  - taking notes
  - taking minutes
  - giving references
  - quoting from sources
  - avoiding plagiarism
- reading skills
  - textmapping
  - figurative language
- oral skills
  - interviews
  - presentations
  - body language
- practical skills
  - using reference books
  - using the library
  - meetings procedure
  - time management
- grammar
  - checklist
  - apostrophe
  - concord
  - passive
  - participles
  - sentences
  - verbs
  - practice
- vocabulary
- spelling
- business English
- background theory
  - formal English
    English for Special Purposes
  - logical English

TOP

A map of search engines.

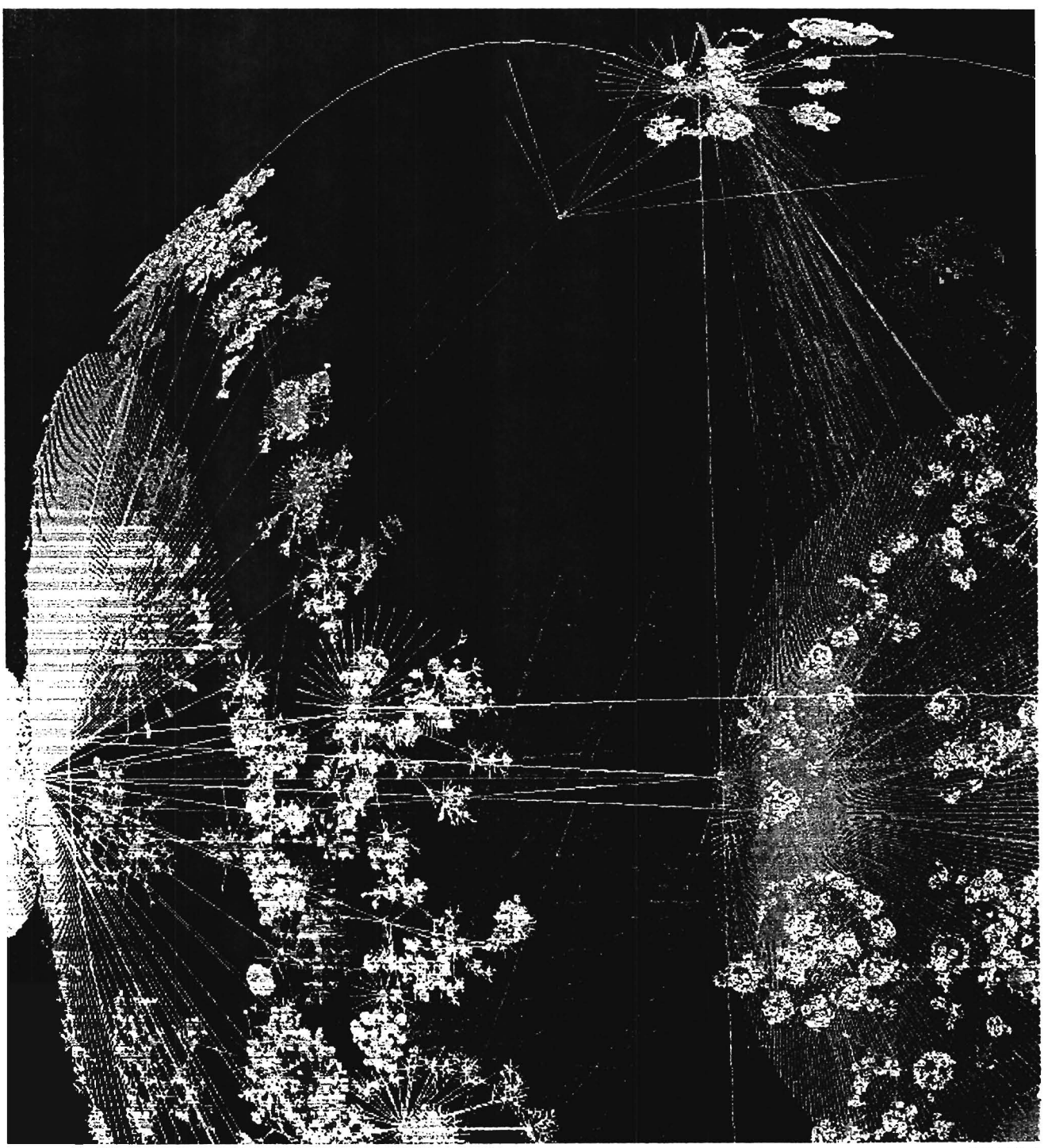

Mapuccino Map (search string was: clinton)
File
Layout
View
Operations
Help
CNN Plu...
CNN Plu...
CNN - H...
CNN - F...
CNN - S...
CNN/SI ...
Softwar...
CNN Cus...
AirMedi...
Documen...
CNN - W...
CNN - Y...
CNN - S...
CNN - T...
CNN - S...
CNN - E...
CNNfn ...
CNN - C...
mapuccino
Java Applet Window

4

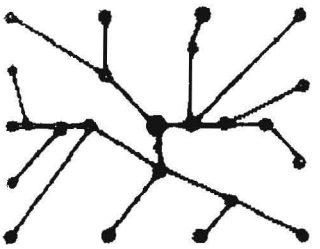
MAPPA MUNDI

Map of the Month March 2001 Walrus Visualization by Young Hyun at CAIDA

map of internet use patterns



4.2



CONVERSATION MAP version 0.01
AN INTERFACE FOR VERY LARGE-SCALE CONVERSATIONS

Warren Sack
MIT Media Laboratory

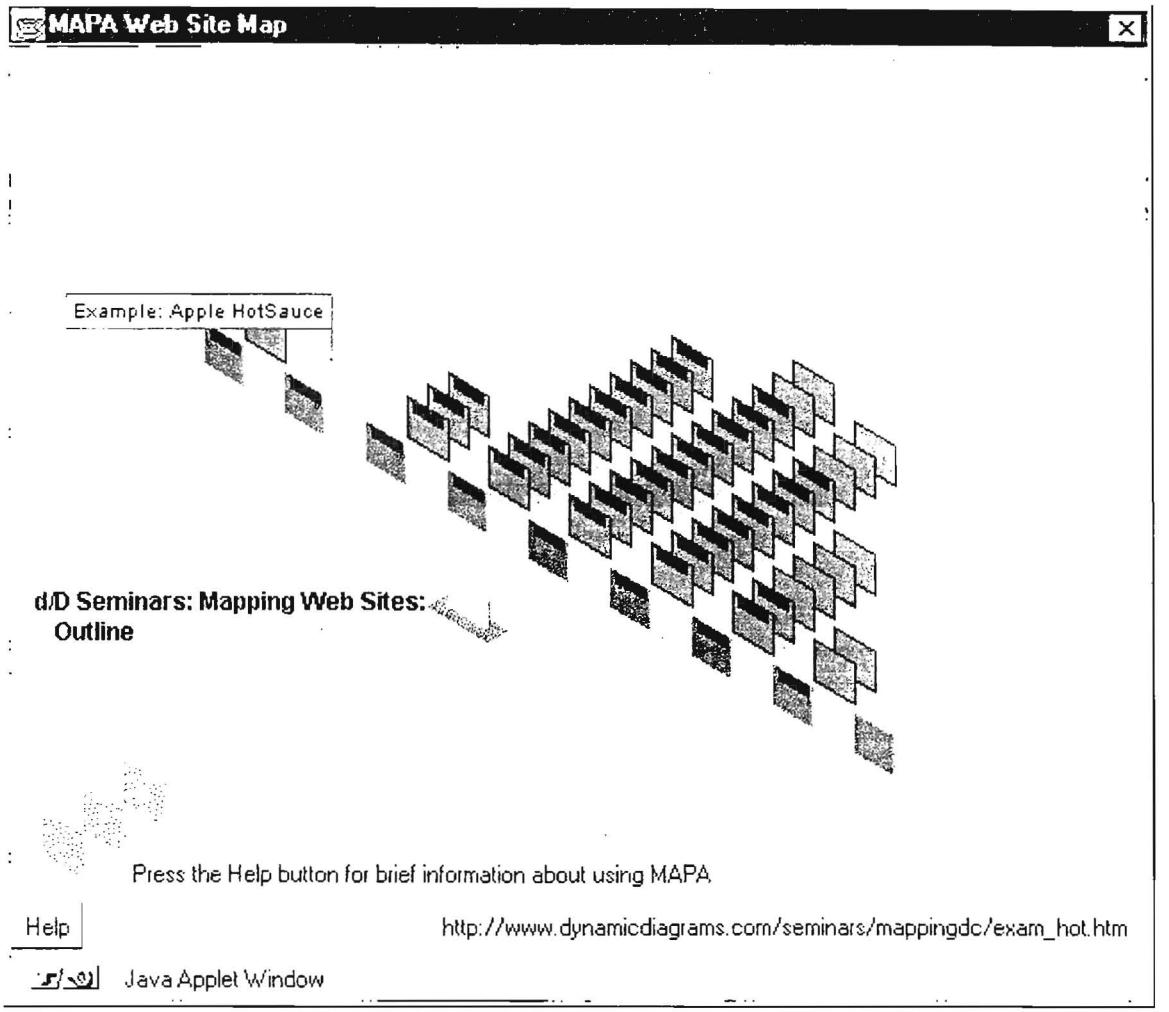
What is it?

VERY LARGE-SCALE CONVERSATIONS

On the Internet there are now *very large-scale conversations* (VLSCs) in which hundreds, even thousands, of people exchange messages. These messages are exchanged daily -- and even more frequently -- across international borders. Unlike older, one-to-many media (for example, television or radio) where a small group of people broadcast to a larger number of people, VLSCs are a many-to-many communications medium. Also, unlike older, one-to-one media (e.g., the telephone), the people engaged in VLSCs do not necessarily know the electronic addresses of the other participants before the start of the conversation. For these reasons, VLSCs are creating new connections between people who might otherwise not even have imagined the other's existence.

CONVERSATION MAP

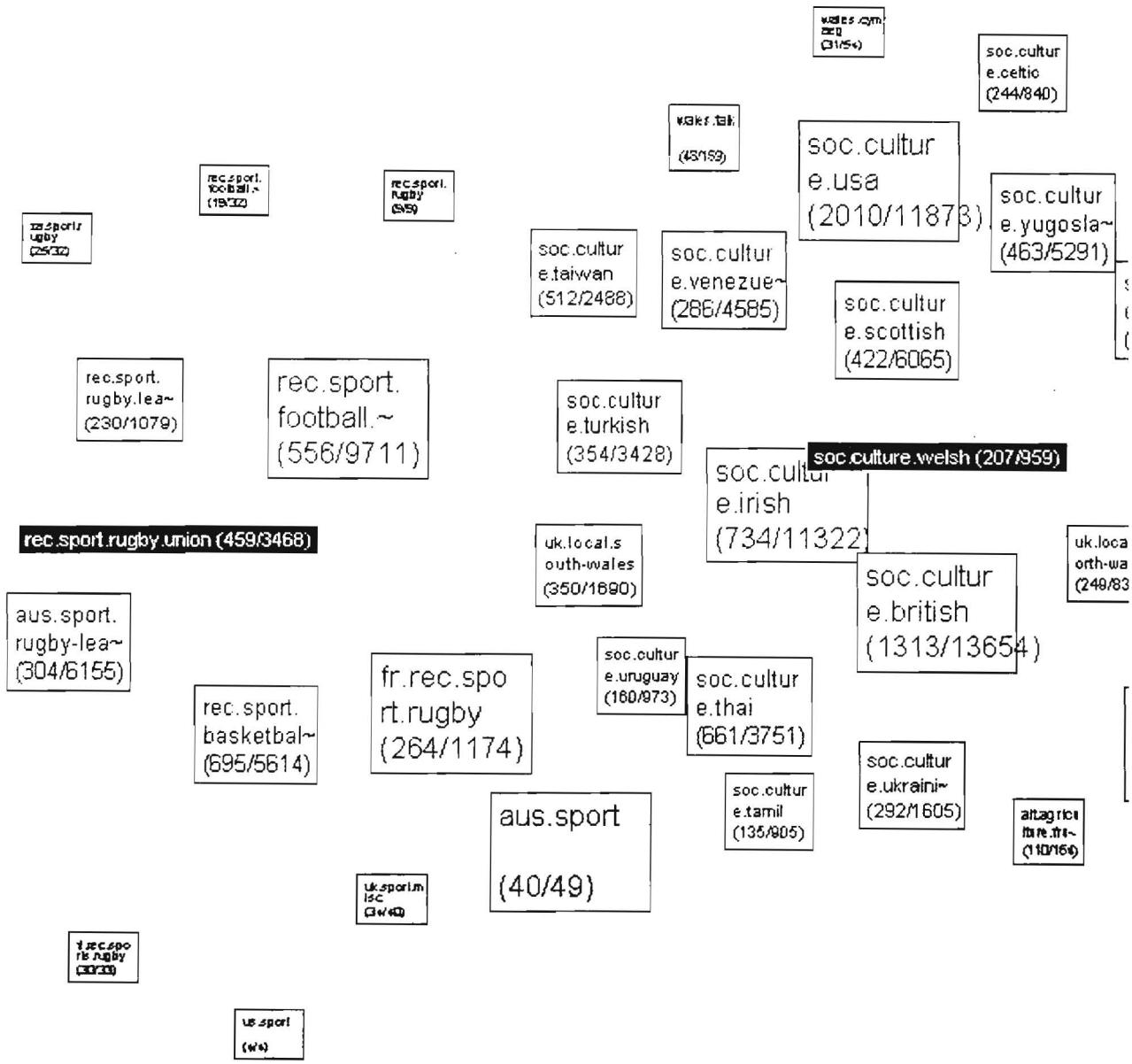
Conversation Map is a newsgroup browser that is designed to make it easier for participants to understand and reflect on very large-scale conversations like large, electronic-mail lists or busy, Usenet newsgroups.


MAPA Web Site Map
Example: Apple HotSauce
d/D Seminars: Mapping Web Sites:
Outline
Press the Help button for brief information about using MAPA
Help
http://www.dynamicdiagrams.com/seminars/mappingdc/exam_hot.htm
Java Applet Window

4.3

MAPPA MUNDI

Map of the Month February 2001 Netscan's Cross post visualization



Example of Netscan's Cross post visualization
(Courtesy of **Marc Smith, Microsoft Research**)

Appendix 6

Examples of course types for language support

The following discussion is designed, not to critique specific texts, but to use texts chosen from a wide range of language support materials, over a period of time, as analogues by which to illustrate different approaches to language support teaching.

The contents lists of books, courses and syllabuses can be treated as analogues of the ideology (themes) and structure of courses. Some texts conflate or confuse their target market (teachers, or students?). Du Toit, Heese and Orr made the leap, with their *Practical Guide to Reading Writing and Thinking Skills*, of providing a book in two parts, one for the students, and one, with advice, theory and materials, for the teacher. Some examples of different textual approaches follow.[1]

Example 1

Ewer and Latorre, 1969 *A Course in Basic Scientific English* London: Longman.

This is the sort of book which problematises science communication. Although it claims to address 'scientific' English, the contents list is a grammar course, and ignores the discourses the students need. Produced for L2 commonwealth students of science, it is unhelpful. Example of contents :

---

[1] It is not possible to group the following texts and courses according to target market (science students, communication courses, and so forth) because some cross boundaries among groups, while others do not address the target group one might expect. Yet others are appropriate for any group. They are treated as models, as warnings and as instances where practice and effect cannot be predicted. Examples 3; 4.3; 8 and 10 are all different and yet all are useful models.

1. Simple present active
2. Simple present passive
3. Simple present active and passive
4. *-ing* forms
5. Present perfect ; Present continuous
6. Infinitives
7. Anomalous infinitives
8. Past perfect : Conditionals

Grammar and syntax courses like this one from 1969 are still part of English support in South Africa. Some client departments still have the mistaken beliefs that the English department should supply grammar teaching, in the belief that teaching grammar improves grammar.

Example 2

Steinberg *Introduction to Communication* 1994 Cape Town: Juta.

A serious flaw is its conflation of the language of the teacher and that of the learner. The contents illustrate the ideology of this 'structuralist' textbook:

Unit 1	Human Communication (Introduction-stages in- discipline)
Unit 2	The Communication process (Introduction-components- models-settings)
Unit 3	Functions of Communication (Introduction-purposes-effects-theories)
Unit 4	Communication and perception (Introduction-the perception process-improving...-Gombrich's theory of...)
Unit 5	Language and communication
Unit 6	Nonverbal communication
Unit 7	Listening.....to
Unit 11	Mass Communication...

It assumes that *knowing about* is the same as *knowing how to.* The foreword (ix) states that 'An attempt has been made to produce an interactive text by adopting an informal style of writing.' What 'interactive' means here, and how informality leads to interactivity is not clear. An example of the 'informal style of writing' :

> The one-to-one transactional model is a basic model of communication. We can,

> however, apply its principles to communication situations that involve more than two people. Take note that in a group situation....(19)

Interactivity amounts to asking closed questions like 'Did your partner's non-verbal signs help you to understand him/her more easily?'(17). The answers can only be *yes they did / no they didn't / don't know*, which reflects back on the inadequate format of the question. The text claims informality but speaks from above ('Take note that...'). It is directed at the theory of communication rather than the practice ('and then to relate this knowledge to experiences which are familiar to South African students' (ix)), and so is apparently intended for teachers rather than those who wish to be communicators in media or politics or entertainment. But in contradicition to this, the activities are addressed to *you*, using the formula *imagine that you ...* or *choose a sport that interests you* — where clearly the *you* who wants to talk about sport and the *you* who is a teacher or student of communication theory are probably not the same people. The stated objectives of each unit are that students should be able to *describe* or *explain* one or other part of the theory of communication — not that they should be able to *do* anything. Content and information play no part in this course.

Getting learners to learn structural sentence patterns does not enable the learner to use these patterns in communication; equally making learners aware of the patterns in discourse may not enable them to use those discourse patterns in communication. Descriptions of language *use* are mistaken for providing language *learning*.

Symptomatically, a section called *Improving Language Skills* follows an account of the Sapir -Whorf Hypothesis, the explanatory language (of the teacher) is abstract and distant from the

sort of use a learner would be required to put into practice, and is full of space-filling memes:

> For instance, because meaning is affected by denotation and connotation you can never be completely sure that your use of a word will create a meaning in the minds of others that is exactly the meaning you intend. (53-4) [my underlining].

Two pages of this advice are followed by *Activity*:

> Make the following statements clearer by using more precise / concrete / appropriate words:
>
> 'You know how much I love soccer. Well, I'm practising a lot because I really want to get better'
> 'That concert I went to the other day was real cool, man.'
> 'The government's attempt to cover up Inkathagate was a total fiasco.'
> And so on...

Criticisms of this 'activity' are:

1. None of the examples belong to discourses relevant to the students' needs

2. '*More precise*' is not defined: why and to whom and in what circumstances.there are no 'answers'. It is not clear what students would be expected to do here or what purpose it would serve in either the short or the long term.

3. All of the sentences in this exercise are in direct speech. By asking students to '*correct*' them, it implies that 'better' speech is more like written language. There is no awareness of appropriacy to the spoken and informal contexts.

4. Students are usually critical of what they see as attempts by lecturers to ingratiate themselves, by showing that they know about rap and soccer, are against the government, and use words like *cool*. In effect those attempts widen an already unbridgeable gap.

5. An unquestioned assumption is made that slang is less precise or 'good' than formal English.

6. Later in the book, under 'Organisational Techniques for Specific Purposes' (121) students are asked to provide evidence for the accident rates of women drivers, or the success of Maroko Swallows, again using material outside the scope of academic communication, which is said to be the topic of the textbook (ix). The topics are not gender-sensitive.

Example 3

Stewart, G., de Kock, C., Smit, M., Sproat, B., Storrie, G. 1996 *Communicating for the*

Professions Cape Town: Juta.

Its stated aims of this excellent book, published two years later by the same publisher,are :

> to include all key syllabus elements, with ample practical examples of communication in the workplace. Particular care was taken in the planning of the book to make the content clear and intelligible to students for whom English is a second language, while ensuring that the needs of English first-language students were not neglected.
> ...Readings are provided as links, to direct the student beyond the chapter content and into the world of business...
>
> Preface, v.

The book is divided into10 Chapters, each broken into parts:

1. Effective study skills
   How to plan...lectures and note-taking... Reading and study techniques
   How to study..(and so on)
2 Communication theory ...
3. Writing style: Memos, letters , reports....
4. Meetings...
5. Speaking and listeni ıg...
6. Negotiation...
7. Media literacy...
8. Screen language...
9. Communication and the computer...
10. Life skills for your profession....

This book consistently

- discusses what to do and how to do it
- addresses students directly.
- solves problems that students will need to solve
- acts as a preparation for professional Communication
- never confuses the roles or discourses of the lecturer and the learner
- provides the core of a communication course with relevant examples and application and a wide range
- contains a wealth of materials and information
- includes media literacy and computers
- is not discourse-specific ('integrated'), or 'interactive', though as discussed earlier, the first is unnecessary and the second, in a textbook, illusory.

It has two inevitable flaws:

- it cannot provide access to the computers it mentions, or show how to get access (this is the difficult bit, not talking about it, and additionally, the practice changes one's ideas

Course types for language support

about what is needed and how to do it).

- the illusion that the linear process from Chapter 1 to the end is process up a hierarchy to the top, or along a path to a goal, at which point all has been achieved. The book inevitably cannot analogue Halliday's vision of inter-related meaning producing fields, or provide the experience for students of choosing their own directions among options, at their own pace.

Example 4.1

J. Eastwood 1980 *English for Travel* Oxford: Oxford University Press. (Discussed in Hutchinson and Waters 1987: 32).

Example 4.2

P.L.Sandler 1980 *The Petroleum program: English for the Oil Industry* BBC Publications

Functional, content based courses. Functional syllabuses focus on specific discourse types as appropriate to different situations. Language then will be taught (if at all) within the contexts in which it will be used, and metalanguage will be avoided. These are attempts to provide discipline-specific 'integrated' language support.

Eastwood's chapter headings are of the type :

1. Asking about travel
2. Making travel arrangements
3. Ordering a meal
4. Asking the way
5. Hiring a car....(and so on)

and Sandler's:

1. The Rig
2. Fishing Jobs
3. Traps and Geology
4. Reservoir Fluids
5. Natural Flow
6. Blowout Control
7. Drives and Stimulations
8. Directional Wells
9. Jobs on the Rig.

Course types for language support

Books of this kind are a little too like a series of comprehension exercises, and are aimed at a very specific market. Is the market the men who work on the rigs? Engineers? Interested amateurs? It is difficult to envisage how the content will help out on the North Sea, and tempting to think that the books havefilled market niches, piggy-backing on general interest in travel, and in North Sea Oil in the 1980s.

Example 4.3

Kotecha, P. and A. du Plessis 1994 *Communication for Engineers : an Integrated Approach to Academic and Language Skills* Cape Town: Maskew Millar Longman.

This is one of the most useful textbooks for practical language and cognitive support. Although addressed to 'engineers', and written by 1994, it is still useful. The title makes unabashed appeal to the memes of the moment (*integrated, approach, academic, language, skills*). But it addresses students and tutors separately, defines the required outcomes, explains the background to the course and the context in which learning will take place, and allows for group learning. It begins with an address to the student: 'all your learning will be task-based and learner-centred...'(page vii) and carefully defines the different language spaces — reading, writing, speaking or listening. It is open about how assessment and self-assessment will take place. 'This book is designed to help you develop the problem-solving and communication skills which you need in order to succeed in your chosen career' (page vi).

Each chapter considers a topic which is part of the students' course, but which is also appropriate for all communication students. They provide well-defined materials and tasks for each section, all of which involve skills all students will need. The Appendix contains suggested answers, and

guidelines on assessment. The book uses flow charts, diagrams, illustrations, sample arguments. A model book! The topics are interesting and genreal and practical enough to be used for any tertiary student, and strategies for engaging with each text are clearly shown.

Sample Chapters:

Section C: Mining and Industrial Safety
- Unit 7 The Accident at Samed: Report-writing
- Unit 8 Explosion at the New Age Factory: Writing an Abstract
- Unit 9 A Mining Accident: Cause and effect arguments.

Section D: Aspects of Mining in South Africa
- Unit 10 Gold recovery and production
  Transfer of information
- Unit 11 The Tsese Gold Mine: Writing a journal article
- Unit 12 The closure of mines:
  Group decision-making and formal letters
- Unit 13 Gold Mining: Description and classification

Section E: Generation of Electricity
- Unit 14 Comparing methods of electricity generation
  Advantages and disadvantages
- Unit 15 Coal-fired power generation: Persuasive argument....(and so on)

It concentrates on the cognitive level of writing, in terms of genre (reports) and planning and structure.

Example 5

Dalmas and Hackett 1987 *Practical English: a Complete Course* – a Reproducable Book, Portland, Maine: J. Weston Walch.

Providing a 'holistic' approach to 'writing', it takes students and teacher through a genre-based process of writing towards professional 'competence'. The authors say: 'There is no way to learn writing other than by writing' (vii). But it does not relate writing to content and to thinking, defining language use in its own terms, not in terms of its *function* — as though one could write without having something to say. This is an example of Kilfoil's 'syllabus in a vacuum'. Some of the lessons in this long book may rub off, but the experience of working through it must be

monotonous and meaningless.

Example 6

C. Van der Walt *English for Law Students*

A South African, discourse specific textbook, but not systemically based..

Example 7

M.J.Wallace 1980 *Study Skills in English* Cambridge: Cambridge University Press.

The 'skills syllabus': the table of contents reveals a typical foundation course:

1. Organising your studies
2. Improving your reading ability
3. Taking notes
4. Taking part in seminars
5. Writing an essay (1) research and using the library
6. Writing an essay (2) organisation
7. Writing an essay (3) presentation
8. Assessment, study techniques and examinations.

This very conservative type of course might be useful to top students who wish to understand the requirements of tertiary study. It locks into the essay as its goal, and assumes without question that the skills it discusses are both desirable and transferable.

Example 8

An 'English Communication' course, registered 1999 and taught at present. It looks on paper like the course from hell, but it has out-performed many more planned and controlled experiments. It has no content, no relationship to mainstream courses, no textbooks, no materials — only an outline which moves from 'grammar' through items such as 'note-taking and 'emotive language' to 'report-writing' over four modules. It is a good example of what Wendy Kilfoil called a 'course in a vacuum'. This 'non-course' which does everything wrong is about

to be submitted to SAQA for acceptance. It begins from 'where the students are coming from' and acknowledges 'improvement' as the criterion for passing. It is intended to address the communicative ability of L2 learners, with focus on what students bring to the courses linguistically and practically; 'bring a magazine article of your choice'. Passed by Senate, it has been taught for two years, by dedicated teachers who have created from the outline a course which seems to work. Assessment is based on group projects, interviews, portfolios, attendance. Since the course is empty, there is timetable space to provide online learning to a captive group to whatever extent the lecturer may wish, if he or she can do it and if facilities are available.

This course provides no paradigm or framework or structure: not the same as the eclecticism recommended by Hutchinson and Waters, who assume an academic standard. Its strength is that it could be filled with tasks which enhance professional performance. 'The fossilisation of learners' interlanguage can indeed be typical of such programs' (Mitchell 1996: 6). What looks like a worst-case scenario has proved to be effective in the opinions of students and staff and to produce enthusiastic results and high quality performances. In fact the course is as good or as bad as the teacher who teaches it.

Example 9

Widdowson 1979 *Reading and Thinking in English: Exploring Functions* Oxford: Oxford University Press.

A course based on cognition. Although it is reasonable to assume that tertiary students can transfer skills acquired in support courses to their mainstream subjects, this book, though interesting in itself, is perhaps remote from either main disciplines or marketable skills to be useful as support — as the contents list shows:

Course types for language support

Unit 2 : Generalisations
Part 1 The nature of generalisations
Part 2 General and specific information (paragraphs containing a single generalisation)
Part 2 Levels of generality ..etc.

Example 10.1

Orr, M.H and C.J.H.Schutte 1992 *The Language of Science* Durban: Butterworths.

Example 10.2

Toit, Heese, Orr 1995 *A Practical Guide The Teacher 's Manual* Southern Book Publishers. And *Reading Writing and Thinking Skills* - the student manual.

10.1 While avoiding metalanguage, the book moves through the various levels of systemic linguistics , providing 'the reader with a basic 'tool kit' for tackling the reading of science text books. Chapter 1 starts on the micro level of words and their functions...Chapter 8 provides some sophisticated apparatus for the 'toolkit' in the form of thinking skills - strategies for managing and manipulating information.' (Preface,v). This book is one of the more useful of its kind. It does not teach science, but limits itself nevertheless to the discourses of science; one of the authors is a scientist, the other a linguist. It builds the language of science out of its elementary particles, words, sentences, ideas, paragraphs, connectors, logical thinking, specific registers, and visual information in science. To do this, the writers use scientific examples, a good example of integrated learning procedures. This book is lucid and full of information, and logically structured. Compared with a program, its format is (inevitably) linear and goal directed, leaving students with the understanding that if they finish the book they will have mastered everything.
10.2 This is one of the few examples where the writers acknowledge overtly that the discourse of the teacher and the discourse of the learner are different, and act upon that insight.

Example 11

L .M. Rooney 1999 *New Perceptions : An Integrated language, Communications and Academic Skills Course* Maskew Millar Longman.

An example of the inherited course — some else's course: a 'complete package' containing 'lecturer's guide and a 180 minute video master tape'. The price is prohibitive : R2280.00. The publisher's account of it says it 'offers a fresh, innovative approach to language, communication and academic skills' and 'interactive engagement' — what does that mean in practice?

- 'A generic language, communication and academic skills coursebook'
- 'A completely integrated learner-centred course'

Language skills

- presents an introductory grammar course which becomes progressively more complex
- 14 different structures are authentically presented, practised and produced

Communication skills

- all four skills - reading, writing, listening and speaking are extensively covered

Academic skills

- time management, dictionaries...report writing

Learning tips, etc

Contents 10 units:

Introduction to academic skills
Lets Talk human rights
Crime and Punishment
HIV and Aids - everyone's concern
The world around us
Our country of many languages
Communicating to win
Choosing how to die
Women in society - the struggle for equality
The Working World

The important meme-word is 'authentic' — meaning perhaps, sociologically relevant. Students will not find the discourses of their subjects here.

Example 12
COLISA Science Access Course :

Course types for language support

Contents 15 Units :
Independent learning
Communication with the Institution
Increasing reading speed
Vocabulary building Strategies
Key words
Academic and Scientific English
Typical sentence structures
The language of Mathematics
Solving word problems in Mathematics
The discourse of Mathematics
Ideas in sentences, paragraphs and longer texts
Reading longer texts
Basic notemaking strategies
Notes to suit text structures
Understanding information

This course conflates the discourses of the teacher with those of the learner.

Example 13
Kilfoil, W. 1997 *Comprehension Skills for Science* The reading module iv-v Pretoria: UNISA

> Sometimes the specification of skills might determine the selection of content. In other cases, such as with CSS, where the context of a reading course for the faculty of science predetermines the content, the specific skills identified by the NQF should be interpreted in the light of the content.
>
> Kilfoil (1998:51)

This UNISA course is excellent, and one would imagine that it should be successful. Kilfoil comments on the negative perception of it among students and among science lecturers. It is possible that if the same course were organised around the headings given to the components of the science modules, using their textbook in the same order as in the main course, the same materials might find approval. The book addresses students clearly and unpatronisingly, and specifies outcomes:

Content

- your subject and the organisation of its discourse (responsibility of subject specialists)
- grammar and effective language use
- the language of your own discipline (terminology)
- reading strategies
- analytical strategies
- recording and summarising strategies (writing to learn)

Essential Outcomes

- learn from texts

Course types for language support

- use language, both general and subject specific, effectively
- think within an academic, scientific, tertiary context

Specific Outcomes

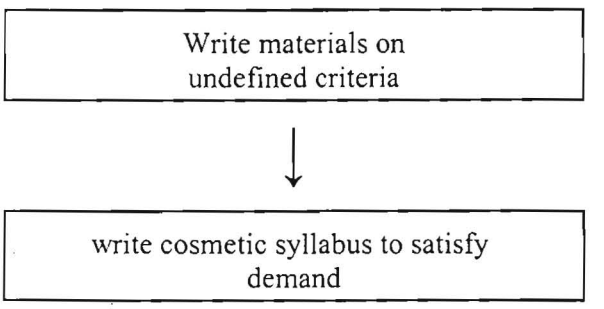
- use language to access and process information effectively
- use understanding of language (both general and subject specific) to maintain coherence in long and complex sentences
- use recognisable features, familiar concepts, and some understanding of the construction of scientific discourse to construct meaning from long, complex texts
- identify, gather and analyse information for investigative purposes and use effective means to organise, record and summaraize the information
- use a variety of textmapping techniques to highlight and record important words and ideas
- extend your knowledge of how to read texts for information or for specific purposes (skim, scan, study read; identify key words and phrases, topic sentences, main ideas)
- draw information from a variety of written and non-linguistic sources to complete tasks such as mind-mapping, segmenting and labelling, drawing flow charts and classification trees, making linear notes and writing short summaries in paragraph form.
- analyse definitions into term, class and differences to avoid confusing mutually exclusive concepts
- apply some strategies for reaching logical conclusions
- identify, pose and solve problems using critical and creative thinking

Example 14

A Science Communication Course 1994-1998

Multimedia, using film, computers, texts, excursions, guest speakers, group projects, for a large mixed group of L2 science students. The course introduced students to a range of background issues which the mainstream courses could not include, such as evolution, cosmology, anthropology, geology. Writing was planned round trees, tables and flow charts, and the goals were a formal report, team work, using resources for professional results, editing and computer literacy. This course was a casualty of transformation, and has not yet been replaced with any support. For further discussion of the language of science see Appendix 5.

Example 15
The Post Hoc approach (Hutchinson and Waters 1987: 94, Fig.24)



Example 16

Clive Sutton 1992 *Words Science and Learning* Buckingham: The Open University Press.

Sutton was one of the first to show how courses and syllabuses are influenced by *metaphor* and *analogue*. It is addressed to teachers, not learners: for science support it was ahead of its time.

The contents:

Sutton warns against 'assuming that one system is the only possible one' and demonstrates that conflicts 'can often be traced to different metaphors which the protagonists are using to guide

what they do' (Sutton 1992: 113-4). He advises that responsibility for learning is in the hands of the learner not the lecturer (ib. 115).

Example 17

Hutchinson and Waters 1987 *English for Special Purposes* Cambridge University Press.

This book begins to approximate to the vision of a computer language support program, despite having been published as long ago as 1987. It addresses teachers not learners, providing a sophisticated understanding of the complexities of language support. It is interesting to notice how all the quotations which the authors have, rightly, chosen to support their 'learning-centred approach' (1987: 74) to English for Special Purposes, apply all the more aptly to program design. They also provide (1987: 1) a topographical *metaphor* for language support which foreshadows analogical images for programs, such as are explored in chapter 5. Their comments (1987: 128) on the basic principles of language support sum up an open and practical approach, rooted in common sense.

Examples 18-20 are current attempts (2000) in one institution to provide remediation for L2 students of English. They also show how the apparently unsystemic nature of the problem prompts unsystemic and linguistically untheorised responses. The first is a grammar workbook, the second two types of workshop on 'writing'.

Example 18 The Grammar Workbook

The direct teaching of 'grammar' has been out of favour for several years (replaced by preferred memes which involved learning by absorption, and integration with mainstream courses, rather than by explicit teaching of metalanguage), but it is again accepted, justified by the need for a 'back to basics' approach, or (particularly on-line) re-visioned or reinvented as the 'interactive'

solution for language problems. Interactivity means in effect working through exercises; 'interactive' language support programs typically contain grammar and syntax exercises, and the means to assess performance by clocking up rights and wrongs.

There is a correlation between doing well in multiple choice or grammar exercises and being proficient in English grammar and syntax, but there cannot be a direct correlation between doing this kind of exercise and learning from it. In other words exercises can be used to distinguish between those students who do not have problems of English expression and those who do. Performance will correlate with factors outside the support course, such as previous education and home languages. The same argument holds good for cloze exercises.

Here is a selection of questions (not on-line, but there are many similar on the web[2]) intended to prepare students of a language support course in June 2000 for a 'language test':

Select the correct verb or pronoun from the pair in brackets:
(1) (Is/are) everyone happy with this arrangement?
(2) Neither the clocks nor the timetable (is/are) wrong
(3) The tea and cakes (is/are) all you need for a good afternoon
(4) The man (is/are) programming the computer
Correct the following sentences
(5) The salary of a lecturer is lower than a lawyer
(6) Whenever a person accepts public office they must be prepared for a certain amount of criticism
(7) The teacher was angry with the way the class behaved

This language practice is not structured systemically. The fuzzy areas show up at once: the verb

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2 See Appendix 7 for URLs of 'interactive' web sites.

choice in (3) will differ according to the presence or absence of *the*, or according to situation[3], something which second language students cannot be expected to know, and which cannot be taught except to experts. Intelligent students can be puzzled by, or exploit, those grey areas. In (4) no-one, whether first or second language speaker, at tertiary level, would choose *are*. (5) (6) and (7) are acceptable in spoken or written English. To confuse the issue further, it would be best to change *a person* (6) to *people*, but the currently favoured form is singular followed by *s/he* to denote gender sensitivity — here the choice appears to be grammatical but is working in reality within a complex area of the systems of context, and situation, namely post-1994 South African sociological or cultural studies texts. Most of the structures in these exercises would not appear in formal written contexts in any case.

Although there is an illusion of unity — all the questions in the first exercise refer to verbs — no system is apparent to the testee, and the phrase *or pronoun* introduces a red herring. However many times students performed tests like these, they would be unlikely to learn any general principles which would improve the formal written academic English they need for the job market.

The tester provided a list of grammar rules for students however, which as a body of reference for students would certainly be useful for the future, even though they did not understand the principles behind it.

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3 If one were choosing 'tea and cakes' from a list which contains (a) snacks and wine (b) chips and orange juice (c) tea and cakes (d)soup and bread, then 'tea and cakes is best' would be fine. Also, if the choice were 'tea and cake' not 'tea and cakes' then 'is' would also be fine.

Example 19 Workshop Type 1

The second lecturer provided a workshop on 'writing', with emphasis on 'coherence' and 'cohesion'. Despite using the word 'cohesion' with reference to texts produced by students this specific lecturer interprets genre as a 'discredited' tenet of New Criticism, and is unaware of the concept of *register*. Students were taught to write by analysing topics given as questions. They looked for key words, and provided thesis statements, topic sentences and supporting sentences, but without learning why this should be done, whether it should always be done, and what if anything defines a sentence as a 'topic' sentence. No help was provided below the level of the clause, or above the level of the paragraph; the texts produced were collections of mechanically linked paragraphs, not register types. Help did not extend from substance to context or to situation. Text is a semantic concept (Hutchinson and Waters 1987:135). Here however, text construction and semiotics are unconnected. The result was mystified students who felt that if writing was difficult, it was now impossible, since marks would be deducted for infringements of rules which they only partly understood. They could not make a connection between their knowledge of the text about which they were writing, and the methodology of the text which they were themselves producing.

20 Workshop Type 2

A more useful workshop on the same subject (paragraph structure) might begin from planning methods. If the data or information which a piece of writing is to discuss is organised in the form of tables, or flow charts, or tree diagrams, or maps, then in a short piece of writing, each step of a flow chart or row of a table needs a paragraph to explain it, and in a long piece of writing, each step or row needs a section to explain it. Practice in making plans, using the key words of the

topic or question to determine the kind of plan,[4] will lead to practice in making paragraphs without metalanguage. A workshop like this should however be part of a series of workshops which would range from the level of the word and phrase (using spell checkers, dictionaries and other tools and strategies) through to the level of genre (report, article). In terms of systematicity, it would be helpful at every level to draw attention to the network of relationships among the original plan, the structure of the writing as a consequence of the plan, the tools and strategies available, and the imagined audience or reader who needs to be able to see the plan behind the text.

Both the grammar workbook and the first workshop focus on only one part of one system, and without relating it to meaning formation on other levels of the target discourse, academic English in the context of a report or critique or article. Each neglects basic distinctions between written and spoken, formal and informal, form and substance, context and situation, academic register or discourse and other possible choices. Neither uses the discourse of the subject it supports. For students who do not know about Englishes, the historical background of English, or about language change, corrections will be impenetrably obscure.

[4] *Compare, contrast* mean the plan is a table, *show how* means the plan is a flow chart or tree, *consider* means a mind map. Lists of words which correlate with plan types can easily be made.

Appendix 7

A list of useful web sites for online language support.

1. Search engines:

Yahoo : http://www.yahoo.com
To find ESL information sites, go to social science>Linguistics and human languages>languages>English as a second language...

http://www.geocities.com

http://www.webbrain.com

2. General:

HTML style guide
http://web.bentley.edu/empl/c/rcrooks/comm-web/style/complete.html

An Interactive Helpdesk for Distance Education 1997
http://cs.ru.ac.za/coe/research/projhelpdesk.html

A glossary of linguistics terms:
http://www.sil.org/lingualinks/library/literacy/glossary
This is provided by The Summer Institute of Linguistics, whose purpose is 'to work with language communities world-wide to facilitate language-based development through research, translation and literacy'. Useful, well designed site.

http://www.researchpaper.com.
Ideas for research papers and projects, and information about how write papers.
Links to '100 pages of writing tips and techniques' or 'Infonautics'. Also search by discipline, for reading, writing, research on the web, special subjects...Set out on an analogue background of A4 ruled paper.

WebCT online tutorial
http://www.webct.com
and
http://www.futuremedia.co.za

http://www.microsoft.com/education
Technet is the site for Microsoft in higher education

3. AMERICAN ONLINE WRITING LABS

Purdue University Online Writing Lab (OWL)
http://owl.english.purdue.ed

A useful and professional language support site. It is produced by a large number of American academics. Links to

- a wide range of materials, grammar and syntax, and writing and thinking skills, of all kinds.
- text books - for example Kathryn Lamm's '10,000 Ideas for Term Papers, Projects, Reports and Speeches' (1995) (In partnership with Macmillan Publishing USA)
- other OWLS and tertiary language support sites in American Universities.

It does not attempt to integrate the materials one with another — this would not be practical.

The Berkeley Instructional Technology Program
http://www.itp.berkeley.edu/~thorne/MOO.html
The writing lab at Berkeley, called the Café Moolano, is at
http://moolano.berkeley.edu
Also provides links to other sites.

The University of Michigan
http://www.emich.edu/~linguist
A powerful site for those wanting to learn about the field of online learning. Provides:

- information and links - for example to the Virtual Library of Linguistics
- a hyperlinked list of OWLS, MOOS, MUSHES and MUDS.

The University of Oregon:
http://babel.uoregon.edu/yamada/internet.html

The Virtual Writing Centre, or 'cybertutoring project' (worth a visit!)
of the University of Arkansas at Little Rock
http://www.ualr.edu/

The Catalyst web site run by the Center for Teaching Learning & Technology at the University of Washington, Seattle. The main site is
http://depts.washington.edu/catalyst
but there are several linked web sites.
Washington, Seattle has an intranet on which lecturers can post materials using a template. The service is run by postgraduate students who are given course credits for work on the site.

4. BRITISH WEB SITES

John Higgins site, Stirling University. This site is useful on hypertext and CALL, and provides a full CALL bibliography.
http://www.stir.ac.uk/celt/staff/HIGDOX/hypertxt.htm
CALL Bibliography:
http://www.stir.ac.uk/higdox/callbib.htm

Dave Sperling's ESL Café
http://www.eslcafe.com

Exciting site, full of useful ways-to-go, from a long time professional.
Search Sperling's English Second Language Web Guide, at
http://www.eslcafe.com /search/Online_English_Courses
which lists a wide range of sites relating to language support at tertiary level. The site provides an email facility for course writers to add their own sites to the list.

See also **D.Sperling 1998** ***The Internet Guide for English Language Teachers*** **Prentice Hall.**

Tim Johns CALL site — The Centre for English Language Studies at Birmingham University, one of the first in the field and still being updated
http://www.bham.ac.uk/CELS/inhouse.html
Tim Johns home page is at
http://sun/bham.ac.uk/johnstf/homepage
http://www.hull.ac.uk/cti/langsite/internet.htm

http://www.edunet.com/english/
This is a useful site, with links to other online sources of help.
http://www.edunet.com/english/ gram
http://www.edunet.com./english/practice.html
This part of the Edunet site belongs to The St Johns Wood School of English, and the Hampstead School of English. Materials in the section **/gram** (grammar) are copyright to The Digital Education Network Ltd., 1995, S. Hughes. Materials on show are not helpful or media-friendly. This is another case among many where materials are couched in language too difficult for learners. There is no attempt to use the medium to reinforce a message (poor screen design). The only concession is two colours of button.

5. EXAMPLES OF SITES WHICH ARE LESS THAN USEFUL

http://compuhigh.com/info/

http://www.esllessons.com

For comment on those sites see Chapter 5.

6. SOUTH AFRICAN WEB SITES

http://www.ru.ac.za
Rhodes University: Very useful papers by Wentworth and Collett

University of Natal Durban's **CAMESE** project
http://www.und.ac.za/und/ling/camese.html

This site is for registered students and cannot be used from outside, but the web site provides

samples and information.

Provides 'Computer-Aided Multimedia Editing Skills in English'

'This site is primarily intended to help English second language students to edit their academic writing more effectively...It is not intended to be a general purpose ESL program'.

It supplements two courses.

The program focusses on 'authentic texts' (a current meme in English support). In terms of assessment it provides 'model answers'. It can make use of several interaction types, because it is for UND students. It seems to be a useful project. It does not take a coherent position on what it is teaching; how will students find what they need to edit their work — or should they work through the 'lessons' step by step? It provides access for its own students to the Oxford Advanced Learner's Dictionary. This site is not useful in providing help, but could be a model for those who want to create internal networks in their own institutions.

University of Cape Town Multimedia Education Group Support Program
http://www.meg.uct.ac.za/projects.htm or downloads/writing
The materials on this site cannot be used without registration, but Marion Walton and her colleagues provide information about their projects and online articles. They appear to be the most sophisticated online group in South Africa.

University of Stellenbosch coursework masters degree
http://www.sun.ac.za/forlang (Rainer Kushler, Stellenbosch hypermedia)
Stellenbosch provides a masters' degree by course work in computer assisted language support for English as a second language.

http://www.rau.ac.za/conf/www1999 email Lisle du Plessis at ldp@L.W.rau.ac.za

http://www.colisa.ac.za/
The Confederation of Open Learning Institutions, South Africa.

National Education policy documents can be found at
http://www.polity.org.za/govdocs/misc/langpol.html
For example
Bengu,S.M.E. 1997 Statement by the Minister of Education on a New Language Policy in general and future education 14 July 1997
and Kadar Asmal National Plan for Higher Education government white paper.

7. NORWAY

The site of Andreas Lund
http://home.sol.no/~anlun/
Norwegian site of Andreas Lund, beautiful and interesting, new useful links. This site seems to work on the principle of total immersion, to provide help with

where the words Second and Foreign are scored through. From here one can go in fascinating directions, illuminating for teachers who would like to see how the future works.

8. OTHER USEFUL SITES WORLD-WIDE

Explore:

http://www.esldirect.com

http://esl.to/iep/int.html

http://www.globalenglish.com — a commercial site for **Business English**

http://www.globalesl.net/

http://learner.org.technology -
the American Association of Higher Education site — provides discussion and information.

http://www.drh.org.uk
Digital Resources for the Humanities — papers, articles, bibliography online.
— 'a major for all those affected by the digitization of our common cultural heritage'.

http://www.csun.edu/~hfoao006/ProgramIEP.html
California State's Intensive English Program

http://umanitoba.ca/student/resource

http://home.mcom.com/home/internet-index.html
http://www.digital.com/gnn/wic/index.html ?gnu
http://akebono.stanford.edu/yahoo
http://pass.wayne.edu/DU.html
http://uu-gna.mit.edu:8001
http://alberti.mit.edu/ap/ap.html
http://core.symnet.net/~VOU/
telnet://ndcl.occ.uky.edu

Distributed Multimedia Survey
http://cuiwww.unige.ch/OSG/info/MUltimediaInfo/mmsurvey/intro.html

OASYS Homepage
http://www.darmstadt.gmd.de/oasys/index.html

Our Vision for Educational New Media

Language support web sites

http://webnz.com/wnp/hydi/vision.htm

Metamedia Distributed databases - Media Weaver
http://lummi.stanford.edu/Media2/ASD/ASD_Homepage/Multimedia.html

Video-on-Demand
http://www.digital-solutions.com/video.html

Crispen, B. *Cyberspace*, 1998
http://home.hiwaay.net/~crispen/vrmlworks/cyberspace.html

The 'Voice of the Shuttle' web pages for research, from the University of California Santa Barbara, is a rich source for links and information to bibliographies, journals, listserves, newgroups and conferences.
http://vos.ucsb.edu/

9. JOURNALS, PUBLISHERS SITES AND BIBLIOGRAPHIES

8.1 JOURNALS and PUBLISHERS

The Internet Teaching English as Second Language Journal
http://aitech.ac.ip/~itesli/links/TESL
This is one of the most useful sites. It provides links to:

- The Internet TESL Journal
- TESL/TEFL/TESOL/ESL/EFL/ESOL
- Self-study quizzes, JavaScript quizzes, puzzles, jokes, games, questions
- 5197 registered links, for teachers and students.

Some of the categories listed are dictionaries, lessons, tests, games, grammar, textbooks, idioms, speaking, projects, functional English - and many many more.

On the same site go to the index, at

TESL-EJ Index
http://www.aitech.ac.jp/~iteslj/links/TESL/Articles/p1.html
this bibliography is long - download it rather than print it.

Two British computer language learning journals:

International Journal of CALL, ed. Keith Cameron, Exeter
http://www.swets.nl/sps/journals/call.html - also a computer assisted language learning site

and

Language support web sites

System: an International Journal of Educational Technology and Applied Linguistics, ed. Davies and Higgins.
http://www.elsevier.nl:80/inca/publications/store/3/3/5/

ELTJournal, Oxford: Oxford University Press.
http://www.oup.co.uk/jnls/eltj

http://www.prenhall.com
The Prentice Hall site, now a subsidiary of Pearson Higher Education, includes the Prentice Hall School, where a wide variety of materials can be accessed online. This is a developing site, at
http://www.phschool.com/
Full of useful materials

Macmillam HeinemannEnglish Language Teaching
http://www.mhelt.com

http://www.emich.edu/~linguist
The virtual library of linguistics.

http://life.csu.edu.ak/education/tertiary
The virtual library — education by level. You can select tertiary.

Eastwood, J. *Oxford Practice Grammar* Oxford: Oxford University Press. For J. Eastwood's Grammar Forum, see
http://www.oup.co.uk/elt

John Sinclair's Collins CoBuild English Dictionary, the lexicographer's systemic functional linguistics, is online at
http://titania.cobuild.collins.co.uk/

9.2 BIBLIOGRAPHIES

http://www.stir.ac.uk/celt/staff/higdox
for a bibliography of **CALL** from Stirling University

http://www.wfi.fr/volterre/biblio.html
Another **CALL** bibliography

Internet-based Language Learning bibliography at
http://www.hull.ac.uk/cti/langsite/internet.htm

10. SCIENCES

Language support web sites

In addition to those general sites, there are many which deal specifically with communication in the sciences. The European Science Policy Support Group can be found at
http://www.spsg.org/eurocon
and try
http://www.helix.nature.com
http://www.pbs.org

The Open University, Great Britain
http://www.iet.open.ac.uk/iet
Institute of Educational technology
and
http://kmi.open.ac.uk/kmitext.html

Resources for Teachers of Science and Technology
http://www.wfi.fr/est/est1.html
http://www.lessonplanspage.com/LAMOFrame.html

http://www.aitech.ac.jp/~iteslj/links/TESL/Articles/p1.html
where you find the Journal of teaching English as a Second Language, from which you can access articles on science communication, for example
R.Bowers 'A Computer-mediated Scientific Writing Program (March 1995) at
http://www.kyoto-su.ac.jp/information/tesl-ej/ej03/a3.html

http://www.man.ac.uk/Science Engineering/CHSTM/Journals.htm
-links to 44 Journals for the History of Science.

http://www.shef.ac.uk/uni/academic/N-2
http://learnweb.harvard.edu/ent/
http://mason.gmu.edu/~montecin/table

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11. PROGRAMS ON CD and CDRom

1 : The Oxford Advanced Learner's Dictionary on
A.S.Hornby. 5th Edition, ed. Jonathan Crowther:
Contact email to
elt.enquiry@oup.co.uk OR ep.help@oup.co.uk

'Turning a dictionary inside out': enormously valuable learning and support tool. Corpus-based and usage-based — multi-purpose and multi-level. Expensive.

Network licenses are required for 2-10 users or 10+.

Language support web sites

Students who would apply their minds to making use of this CD would also be inclined to think carefully about their writing. Can be use meta-linguistically, for students and researchers who want linguistic information, and can also be used simply, for those who want to know how a specific word is used.

Search tools — for example using filtered headword search — produces lists, highlighted word produces meaning and usage and other information, therefore teaches both the usage and the linguistic information — spelling, thesaurus (using any three letters), meaning, usages through lists because corpus based. Can search for verbal structures using context lists - verbs followed by 'of' or by other verbs in -ing,

This CDRom is lexicography put to good use as CALL. The classification of lexical items is through sets and subsets of usage which is determined by use in context, not by abstract definition. The primary meaning of a word is the context in which it is used, and the complete distribution of the meaning of a word, its lexicographical map, is a classified list of all the different possible contexts, usually arranged according to evolution through time. There is an enormous amount of information on this disk, arranged in constructed paths. There is an annotation section, where students can collect their own information, take notes, make lists of useful vocabulary, and so on.

2. *Oxford English Dictionary on CDRom* Caldwell, J. (Ed.) 1997 Electronic Publishing, Oxford University Press,. Oxford University Press.,
Powerful, but not recent enough, and too sophisticated for CALL.

3. The Oxford Interactive Learners Dictionary on CDRom. Not investigated, because the network loading has been held up for lack of the code from the publisher.

4. Jeffery, B. and J. Jonker 2000 *English for Everyone* Cape Town: Pearson Higher Education. Discussed in Chapter 8, and its use is described in Chapter 9. Demonstration web site and tutorial at **http://www.e4e.co.za**
E4E is designed as a CD to be used either in personal CD Rom drives or from a file server in institutional labs which have invested in site licences. The only complete language support system online as yet. It creates an interactive network of information and processes for all the systems which make up 'English', on the principle that in order to provide complete language support students need to have access to the systems which inform the register of academic English in which they are working. Screens can be selected to form complete courses for specific purposes.

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12. MATERIALS

Materials for language support should ideally be the materials of the disciplines which are being supported. Additional materials can be found in vast quantites on the web. Some useful sites are:

Language support web sites

News websites, such as *The Times*, and other newspapers.
The Mail and Guardian
http://www.mg.co.za

http://www.britannica.com.
The new web site for Encyclopedia Britannica.

http://www.news.bbc.co.uk/hi/english/sci/tech

http://www.newscientist.co.uk

http://www.discovery.com

http://www.nrf.co.za for the South African Journal of Science, full of useful and interesting articles suitable for course work.

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13. EXAMPLES OF SITES WHICH OFFER DISCUSSION AND INFORMATION

Arguments online for and against online learning

University of Illinois Faculty Seminar 1999 'Teaching at an Internet Distance: the Pedagogy of Online Teaching and Learning. The Report of a 1998-1999 University of Illinois Faculty Seminar'at
http://www.vpaa.uillinois.edu/tid/report/tid_report.html

The Report which arose from this year-long seminar is printed in full online. It is interesting, complete and well researched. The seminar provided an up-to-date and rigorous investigation of the state and status of online learning, with papers and contributions by major names in the field in North America and Canada, including the papers against online learning by David Noble, who draws attention to the fact that the process of online learning has been hijacked by business interests.
Links to transcripts of most of the papers delivered throughout that year can be found at

http://www.vpaa.uillinois.edu/tid/meetings/

There is a contribution by Linda Harasim, for example, who is at the centre of Canadian virtual learning. Harasim generously, but impractically, has put her whole lecture using powerpoint transparencies on line — the file is too large to download easily. Her own sites are
http://fas.sfu.ca/telelearn/homepages/harasim/harasim.htm
http://www.telelearn.ca (The Virtual University)
Her textbook is
Harasim, L., Hiltz, R.,Teles, L. Turoff, M. 1995 ***Learning Networks: a Field Guide to***

Language support web sites

Teaching and Learning Online **MIT Press.**

The Report contains web sites and reviews of the main online journals, with statistics and information. The seminar presented convincing arguments for and against online learning. Stephen C. Ehrmann of the American Association of Higher education said:

> If you're headed in the wrong direction, technology won't help you get to the right place.
> **http://www.learner.org.technology**

The report draws attention to expert opinion on what has to come together to make online learning work. It contains links to other major online nodes, and a good bibliography.

At the Ed-Media World Conference on Educational Multimedia, Hypermedia and Telecommunications in Seattle, Washington, June 1999, one of the keynote speakers, Derek Law, from the University of Strathclyde asked

> How far are the needs of the big communications, multimedia and entertainment players driving scholarship down inappropriate routes?
> 'The Mickey Mouse World of Humanities Scholarship' at
> **http://www.aace.org/conf/edmedia99/report**

This site is that of the **Association for the Advancement of Computing in Education**. Here you will find the reports of the Ed-Media Conferences of 1997, 1998 and 1999, with the 1997 and '98 *Proceedings* online, and the abstracts and summaries of 1999.

His concerns mirror those of Professor D. Noble, whose papers, delived at the Illinois seminar, can be found online at:

Noble, D.F. 1998a 'Digital Diploma Mills Part 1: The Automation of Higher Education, at
http://vpaa.uillinois.edu/tid/meetings040299/index.html or
http://www.firstmonday.dk/issues/issue3_1/noble/index.html

1998b 'Part 11: The Coming battle Over Online Instruction: Confidntial Agreements Between Universities and private Companies Pose serious Challenge to Faculty Intellectual Property Rights'
http://communication.ucsd.edu/dl/ddm2.html

1998c 'Part 111:The Bloom is off the Rose'
http://vpaa.uillinois.edu/tid/resources/noble.html

To continue on the down side of online learning in America, where they are way ahead of the rest of the world in terms of infrastructure, but not in terms of sophistication of content: millions of dollars and years of planning and creating infrastructures were invested in the first fully online university in the United States, Western Governors University, which 'opened its virtual doors' in September 1999 at **http://www.wgu.edu**, to register a total of only ten students. The failure of this apparently exciting project is as yet largely unexplained. It may perhaps be the case that

Language support web sites

the media investment sector, as Noble suggests, is out of touch with real educational needs?

The Illinois site also gives access to papers of the American Institute of Higher Education, for example:
Stephen Ehrmann 'Asking the Right Question: What does Research Tell us about Technology and Higher Learning'at
http://www.learner.org/edtech/rscheval/rightquestion.html
and
P.Mendels's response to D. Noble's crtitique of technology in education:
'Can new Technologies Revitalise old Teaching methods' (March 1999) at
http://www.nytimes.com/library/tech/99/03/cyber/education/24education.html

The American Institute of Higher Education Policy site is to be found at
http://www.ihep.com
Online articles at
http://www.ihep.com/PUB.htm
For Example: 'What's the Difference: a Review of Distance Learning' (1999) from the book of the same name by R. Phipps and Jamie Merisotis which explores relative merits of traditional chalk teaching and digital options.

Some articles from the *Teaching English as a Second Language Electronic Journal*:
Bowers, R. 1995 'A Computer-mediated Scientific Writing Program' TESL-EJ Vol.1, No.3, March, at
http://www.kyoto-su.ac.jp/information/tesl-ej/ej03/a3.html

Kasper, L.F. 'Assessing the Metacognitive Growth of ESL Student Writers'TESL-EJ Vol.1, No.3, at March
http://www.kyoto-su.ac.jp/information/tesl-ej/ej09/a1.html

Chen, J.F. 1995 'CALL is not a Hammer, and not Every Teaching Problem is a Nail! Changing Expectations of Computers in the Classroom.', TESL-EJ Vol.1, No.3, March, at **http://www.aitech.ac.jp/~iteslj/Articles/Chen-CALL.html**

The American Distance Education Consortium Guiding Principles for Distance Teaching and Learning,
http://www.adec.edu/admin/papers/distance-teaching_principles.html

Online English language support journals and articles
http://www.aace.org (Association for the Advancement of Computing in Education)
http://www.macromedia.com/software/dreamweaverattain/

Lou Burnand, Marilyn Deegan and Harold Short *The Digital Demotic*, papers from the Conference of Digital resources in the Humanities Conference, Oxford 1997, at
http://www.drh.org.uk.

Language support web sites

http://node.on.ca
The Node Forum, managed by Leslie Fournier. It is a discussion forum for 'Technology and Transformation: Teaching and Training Online' and is an important Canadian discussion group site, to which one subscribes and is given a password. One can then tune in to threaded discussions on topics of interest, for example 'The future of online learning'. One feature is the participation of invited specialists in the field, such as Stephen Downes, whose article 'The Future of Online Learning' was available for a time at

http://www.assiniboinec.mb.ca/user/downes

Education Africa Forum: eduafrica@bridges.co.za

Mitchell City of Bits at
http://www-mitpress.mit.edu/City_of_Bits
wjm@mit.edu

Johnson, S. Interface Culture at
http://www.harpercollins.com/harperedge

14 ASSESSMENT SYSTEMS ONLINE

Genuine assessment of language ability is a specialisation in itself. It has to be distinguished from simply inventing language-specific grammar and syntax questions without regard for cognition, prior learning, culture-specific intrusions and assumptions. It also has to be set up within a rigorously logical framework (Anderson 2000: conference paper), which covers the several systems which make up language, and which allows for register distinctions. This rules out simplistic assessment typified by 'correct the following sentences'.

International English Language Testing System IELTS
http://www.ielts.org/sample.html.
Made by Cambridge University, the British Council and Education Australia. Here one will find at last sophisticated, discipline oriented, discourse based, openminded testing materials which are useful for teaching as well as learning, and which fit an academic tertiary level context and yet do not presuppose special knowledge.

The simple division is made between reading, training and writing, and from this basic choice relevant materials are accessed at once which could provide for a variety of courses. Here for the first and only (so far) time are interesting and useful tasks, of the sort that might have been expected to be in general use by now. The presentation is classically clear, without flaunting technical sophistication.

The International English Language Testing System performs the same function as the TOEFL system (Testing of English as a *Foreign* Language), which is used as the *second* language assessement tool to provide language certification for entrance qualification to American Universities. The demonstration site is at

Language support web sites

http://www.toefl.org
Here too the tests themselves are educational. They have flaws — for example, the contexts and the voices of the readers advantage American students — there is less concession to cultural relativity than one would hope.

Both systems test language ability across the parameters of cognitive ability, writing, reading and speaking skills. They try to minimise the distortions which familiarity with technology, special test training, advantageous education and chance can introduce to testing.

Appendix 8

The role(s) of English(es) in South Africa: analogies between biology and language-as-culture – an argument for corpus linguistics.

Arguments from analogy do not carry scientific weight. I intend to argue from observation, using analogy for the sake of its explanatory power.

In the South African academic landscape many different memes strive for survival in the language environment. Because language, class, race and nation are inextricable intertwined, language questions have unspoken and uninterrogated reverberations. It is not enough to show that one language species or subspecies has been observed to be successful, or 'fit' in the context in which it is used, because the success of any one language is perceived as a threat to others.

The analogy between biological and cultural processes has explanatory power. Languages — for example English — can be seen as alien invaders, which will smother the more fragile indigenous vegetation. Or they can be seen as occupying biological niches; plants which thrive in one biome and yet do not grow in another.

As with plants, the relationships among language species and varieties is not a one-to-one competition. The relationships have in addition real dynamics of their own in the real world beyond the power of ecological or social engineering. English less resembles one plant, than a family of plants, only one species of which is relevant to the competion in any one situation; that one species competes only in a single esoteric biome, the formal one. It is said that English 'is taking over in

the townships'; *if* this is the case, then one cannot stop the process, and the fear that it is should not bear a relationship to whether or not we continue to provide academic support in English for academic subjects. Working as I do in a vibrant, highly educated, Xhosa community, where one hears almost no English among Xhosa students and lecturers, I wonder whether the notion of hegemonic English or *Engelsgevaar* rioting like a weed in the fragile ecosystem of the township has the status of urban legend: 'everyone' knows 'some mothers' who are ambitious and speak only English to their children to help them to 'get on in life'. But 'not us, and not *our* friends' — it is *that* woman, the one who gets into the big (white) car. One cannot, I think, accept at face value *either* responses to questions from researchers about language use in the townships, *or* responses by students in lecture contexts about their language choices in education or at home. Responses are subjective. Only large scale, rigorously categorised language samples provided by corpus linguistics in analysed registers can possibly provide answers to language use questions. Strangely, in South Africa, statistics are rarely allowed to speak. Stats are interpretable, but within strict parameters. The present state of township Englishes can only be assessed statistically, with a valid sample of valid size compared with a control corpus of other South African Englishes, which involves several years of work and analysis. The situations in which English is used are very specific. Spoken language is enriched by code shifting, also in (different) specific situations. Secondly, *if* English is the Port Jackson Willow of language, as KiSwahili is the 'English' of East Africa, does it follow that it is *out of control* — and more seriously, out of *whose* control, and why do we want *control* ?

This argument may seem to have drifted from language support programs. The fear of the binaric and hegemonic language dispensations mentioned above — 'between the programmers and the

programmed, the knowledge receivers and the knowledge providers' (Walton and Clark 2000: 4) now shares space with the fear that English smothers indigenous languages, although it has been demonstrated that it is economic disparity which kills. The paternalistic idea that 'we' must protect the language of the township is simply not acceptable, and should not be used to negate or deny funding to English language support in Africa. Tom McArthur points out a self-evident truth oddly invisible to South African linguists that

> there is a 'top' English, and there are 'bottom Englishes', and there are all kinds of Englishes in between.
>
> McArthur (1998: 2)

And there are 'South African African Englishes' and 'South African English Englishes', and many categories in between. Categories and paradigms matter; they help to determine the situations in which different linguistic vegetations flourish. On the level of analogy they help to show the boundaries within which English does or does not function, and why. Categories and boundaries are drawn from statistical observation of what *happens to be the case.*

There is 'no linguistic rationale at present to justify the institutionalisation of non-standard English'(Wright 1996: 158) and no rational justification for multilingualism in the tertiary environment. But language events are more complex than simply institutional / not institutional. At the interface between spoken and written languages, in the less formal lectures and team teaching fields with which we are becoming more and more comfortable, and in lab situations where spoken language is not of the same level of formality as written, non-standard Englishes and second

languages are helpful. RP Englishes are losing their credibility, while west coast working class Scots is moving from pariah to prestige spoken language. In work environments too, after students leave education, the same practices will hold as in the lab — we do not *really* speak to each other in elocution voices, and we do not really trust people who do.

Recommendation : Further research

With these scenarios in mind, the role English has been observed to play in the computer lab is interesting and unexpected. This is an area which requires investigation, and which is outside the scope of the present study.

Appendix 9

Science support and the language of science.

Computer programs for language support can, potentially, help *all* students. But what kind of help do science students really need? Are science subjects an exception to the idea that all disciplines share a core of language needs?

In outline, linguists and scientists hold different concepts of how the language of science works. Even when linguists analyse science writing, they assume without question that their discursive background is an important tool. They ignore the role that the precise language of mathematics plays in the construction and definition of scientific 'reality'. They also ignore the fact, so much clearer when writing about humanities 'language enhancement', that just as linguistics is not the subject, but the enabler, of support, so mathematics and logic are the enablers of scientific writing. This kind of writing has little need to be discursive.

An analysis of student science writing in a communication course is attached in Appendix 4. It is possible that the inability of students to fulfil the task was due to a humanities bias in the task itself, towards a discourse in which verbal facility is rewarded. Elise Prins (1995: 204-219) points out a second potential for verbal conflict, when she examines the reality of cultural bias in mathematics questions set for second language students. She demonstrates discourse structures, used in the formulation of questions, which do not correspond with typical discourse structures for the same register in the first languages of mathematics students. She further identifies five categories of readability problem (1995:206), and at the same time shows 'the equal performance of all language groups on the non-verbal problems' (210). It is worth bearing

her findings in mind even while assuming that all academic disciplines share linguistically more than they diverge.

Linguists on science writing:

Having pointed out that academic disciplines share linguistically more elements than they differ by, Halliday and Martin (1996) became specifically interested in science writing and the languages of science. They begin from the situation and the desired outcome rather than from a breakdown of text.

> The biggest single demand that was explicitly made on a language of science was that it should be effective in constructing technical taxonomies
>
> Halliday and Martin (1996: 6)

It is often argued that the language of science should be seen and taught as a medium of thinking, not just as a way of expressing conclusions gained through practical experiment (Halliday and Martin 1996: 6; Hutchinson and Waters 1987: 43; Sutton 1992: 2-3; Brown *et al.* 1994: 83). The language of science as a medium of thinking is best manipulated by students who are at the same time using a word processing package which includes a spreadsheet program and powerpoint or the equivalent, and who quickly progress to an HTML format (this may also be true for all student writers).[1]

Clive Sutton describes what he considers to be the role of language in science learning:

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[1] Many second language science students have not had the opportunity to use a computer before they come to university, and worse, third year science students from historically disadvantaged universities in 1996 had not had the opportunity to become computer literate (Menck 2000: 225). Almost all second language humanities students graduate from Vista University without using a computer. The 'Writing with Computers' Project mentioned above attempts to remedy this with the help of private funding from AngloGold, Standard Bank, Billiton and the Port Elizabeth Municipality.

> Words are amongst the tools of the job in the research institute and in the classroom, as people work towards new thoughts, but how exactly do they work on human minds? How have they done so in the growth of scientific ideas?...It seems to me that words, and word-based activities, are accorded too low a status as compared with practical work at the bench....
> Teachers continue tc act as if the practical work were the source of knowledge, with language just a descriptive commentary.
>
> Sutton (1992: 2-3)

He draws a distinction between knowledge and understanding, just as Chomsky drew a distinction between use and competency, and Jean Aitchison (in Brown *et al.*, 1994: 83) between 'recognising' and 'grasping' words. This distinction is rendered otiose by systemic functional linguistics; there is no simple way to determine the extent to which the language of students represents genuine understanding.

From a linguistic point of view, in comparison with their L2 humanities peers, experience shows high performance ability on the part of L2 science students; they have a wider syntactic and lexical repertoire, *and* greater motivation to succeed by acquiring hard facts. Both groups lack knowledge and techniques, skills and a historical context within which to frame their synchronic learning.[2]

Halliday and Martin argue for the basic homogeneity of all academic Englishes, including the sciences, pointing out that the distinguishing features are primarily lexical:

> The distinctive quality of scientific language lies in the lexicogrammar (the 'wording') as a whole, and any response it engenders in the reader is a response to the total patterns of the discourse.

---

[2] Information from personal experience in teaching Science Communication courses at Vista University Port Elizabeth 1992-1997.

> Naturally it would engender no response at all unless it was a variety of the parent language. Scientific English may be distinctive, but it is still a kind of English. If you feel alienated by scientific English, this is because you are reacting to it as a form of a language you already know very well...(If on the other hand you are confronting scientific English directly as a second language, you may find it extraordinarily difficult...but that is very different from being alienated by it.) It is English with special probabilities attached: a form of English in which certain words, and more significantly, certain grammatical constructions, stand out as more highly favoured, while others correspondingly recede and become less highly favoured, than in other varieties of the language....
>
> Any variety of a language, whether functional or dialectal, occupies an extended space, a region whose boundaries are fuzzy and within which there can be considerable internal variation. But it can be defined and recognised by certain syndromes, patterns of co-occurrence among features at one or another linguistic level - typically ...features of the *content* [my emphasis] in the case of a functional variety or register.
>
> Halliday and Martin (1996: 4)

In other words they suggest that the differences between scientific English and other varieties of academic English are small, and tend to cluster in particular linguistic areas. In addition, the principles for writing the abstract of a report are not different from those for a summary, and the planning and writing of the body of a report is informed by the same logical and cognitive principles as the writing of any other factual piece of writing. One would want to teach the format or layout of a report both to students in the sciences, and to those in arts faculties — only a tiny minority will become academics and write for learned journals. Learning to use numbering systems helps all students to order their thoughts, and writing an abstract helps them to think about and sum up what they have written.

It may be worth considering that the practices of humanities writing should move towards those of the sciences, rather than that science students should be made to participate in discursive practices which are outmoded in any case.

In terms of knowledge and information, science lecturers and students are more aware than their counterparts in the arts faculty of the importance of hard facts.

> English for science and technology has always set and continues to set the trend in theoretical discussion, in ways of analysing language, and in the variety of teaching materials.
>
> Swales (1985:1)

There is a risk that special purposes courses (courses designed in integration with the subject they support) will over-emphasise characteristics of the discourse on which they focus, turning it from plain English to jargon. For example, there are clichés, or memes, of science writing which analytical evidence does not support but which become fossilised as part of language support. Analysis of the discourses of different academic disciplines shows that in the main they all draw upon the *same* register, that of formal academic English. A classic example of supposed difference is the use of the passive as an indicator of scientific English, but:

> Register analysis has, as we have already noted, ultimately proved to be an insubstantial basis for the selection of syllabus items [for English for specific purposes]. As Coffey (1984) says about English for Science and Technology:
>
> > Research and experiment continue, but in general the results have not been encouraging...in short, register cannot be used as a main basis for selection, *because there is no significant way in which the language of science differs from any other kind of language* [my emphasis].
>
> There are clearly language forms that tend to be used more frequently in one context than another. The classic example of this is the use of the passive in scientific English....Tarone *et al.* (1981) found in their analysis of two astrophysics journal papers that the active accounted for over 80% of the verbs used. But the important point is that even if particular registers favour certain forms, they are not distinctive forms. They are simply drawn from the common stock of the grammar of the language. Though attractive at first sight, the assumption that language variation implies the existence of identifiable varieties of language related to specific contexts of use has in effect proved to be unfounded.
>
> Hutchinson and Waters (1987: 30)

Language in the sciences may evolve following the trends towards informality set by web

writing and by the writing of computer scientists and American researchers (the new memes). It may be that support courses should not try to maintain a hypothetic and artificial standard for academic English in the same way that medieval science and medicine clung to Latin. Distance (that is, freedom from the power of ancient memes) allows one to see the protection of exclusivity that maintaining an esoteric difference from common language provides. Halliday and Martin again:

> Scientific language is merely foregrounding the constructive potential of language as a whole. The grammar of every natural language...is already a theory of human experience....It transforms our experience into meaning....
>
> Halliday and Martin (1996: 8)

But, from the scientist's perspective:

Three famous scientists have expressed the need to put physics in 'plain English'

> Most of the fundamental ideas of science are essentially simple, and may, as a rule, be expressed in a language comprehensible to everyone.
>
> Albert Einstein

> Even for the physicist the description in plain language will be a criterion of the degree of understanding that has been reached
>
> Werner Heisenberg

> If you cannot — in the long run — tell anyone what you have been doing, your doing has been worthless.
>
> Erwin Schroedinger

Is there a difference between, after the event, telling 'what you have been doing' and, during the event, thinking in a scientific rather than a humanistic way? The language of science has not evolved to protect exclusivity. It reflects the essential and qualitative difference between the way that science 'works' and the ways that writing in the humanities 'works'. The ideas about scientific language above are either expressed by non-scientists and scientists in education, or they are expressed by scientists who want to translate what they have already done, using the

language of mathematics, into popular language. It is worth reading further what Werner Heisenberg says on the subject of language and science. As long ago as the 1950s Heisenberg (1962: 113-128) reflected at length on the difficulty of representing scientific thought in language:

> Throughout the history of science, new discoveries...have always caused scientific disputes...but these controversies have never before reached that degree of violence which they attained after the discovery of the theory of relativity and in a lesser degree after quantum theory....
>
> It probably means that one has not yet found the correct language with which to speak about the new situation...This is indeed a fundamental problem. The improved experimental technique of our time brings into the scope of science new aspects of nature which cannot be described in terms of the common concepts. But in what language, then, should they be described? The first language that emerges from the process of scientific clarification is in theoretical physics usually a mathematical language, the mathematical scheme which allows one to predict the results of experiments...
>
> But [the physicist] has to speak about his results also to non-physicists who will not be satisfied unless some explanation is given in plain language....To what extent is such a description at all possible? This is as much a problem of language as of physics...
>
> Logical analysis of language...involves the danger of an oversimplification...On the other hand, science must be based upon language as the only means of communication, and there, where the problem of unambiguity is of greatest importance, the logical patterns must play their role....In natural science we try to derive the particular from the general, to understand the particular phenomenon as caused by simple general laws....It is obvious that the concepts of ordinary language, inaccurate and only vaguely defined as they are, could never allow such derivations....The concepts of the general laws must in natural science be defined with complete precision, and this can only be achieved by means of mathematical abstractions....[is the correlation between the mathematical symbols] and the measurements which permits the expression of natural laws in the terms of common language, since our experiments consisting of actions and observations can always be described in ordinary language.
>
> ...One should simply wait for the development of the language, which adjusts itself after some time to the new situation...we cannot speak about atoms in ordinary language.
>
> Heisenberg (1962: 113-128)

Heisenberg makes clear that the language of science is mathematics, not English. He also makes clear that scientific thinking is different from the exploratory kinds of thinking which we use in

the humanities to examine subjects from all sides, or in depth.

Most arts writers have not studied either logic or maths, and do not structure their thinking in terms of sets, or limiting conditions. If science students are to have support of any kind, that support has to be provided by scientists; or it is not support but time-filling.

My personal conclusion therefore is that *language support* as the words are understood in the humanities and social and geographical sciences is *inappropriate for science students*, and that mathematics support is more appropriate if students are experiencing problems. Language is not the tool which science students need, and their time should not be taken up with it when more crucial learning is required.

On the other hand, for some second language or educationally disadvantaged students, foundation courses might be provided which enhance background knowledge, with enrichment through scientific films, practical projects and visits to industrial labs; which perhaps encompass some principles of scientific journalism, and some background understanding of ecological matters which impact on science such as water management; which for those who need such help. give practice in writing lab reports, interpreting tables and graphs using English; which include catch-up programs for advanced computing. (See the account of a science communication course in Appendix 6, page 14). None of those activities, it seems to me, are about the *language* of science, except in the sense of immersion in the discourses of science.

It is sometimes the case that new technologies and teaching methods adhere to the standards and

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assessment methods of British universities of the first half of the 20th century so successfully that we still buy into the 'essay' as our main means of teaching and grading students in the humanities. The history of the academic essay and report is interesting, and their value for *postgraduate* extended writing is not in question. The virtue of the essay as test-piece for undergraduates is however an unchallenged meme, with its paragraphs, its introduction and conclusion, its premisses and its universal application, its formal language and rounded periods. For marking purposes, its coherence and validity is more significant than its truth to reality as our students will experience it. In addition, the 'rules' of essay writing are either implicit, so that most students see the exercise as arbitrary, or made so explicit that learning them appears to be the object of the course — neither option is satisfactory as the foundation of a support course, looked at in terms of what students will actually need. The essay survives in its academic niche because it piggy-backs on the memes of stability, continuity, conservatism and tradition. There are other ways to teach logical thinking and cognitive processes, sone of which would be to teach numbering systems and headings or report formats instead. The essay 'shapes...conformity' (Sutton 1992: 88). The methods and the standards used are not questioned or analysed or deconstructed, but accepted as part of the system of things: writing reports and essays 'has eliminated other writing, for example, writing in order to understand a scientist's ideas'(89)

In the humanities in South Africa we teach mystified undergraduates humour us by producing what they think we want, as if grasping the ideologies is more important than knowing — or trying to find out — how the world is *really* put together, how writers *really* write books, and why. Students can write essays, with sentences, paragraphs, introductions and conclusions. But

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those essays rarely actually *mean* anything. They are completed out of cliches, by archiving. In the sciences at formerly Black universities we have clever students who can solve equations, draw graphs, create algorithms, do experiments, but who in their first year at university have never heard of the Big Bang Theory, or understand about evolution. They struggle to analyse processes they see in a film even of a scientific subject; for example over 60% of students in a mixed class of 80 first year scientists in 1997 could not put in order the steps of the process by which lightning was generated after watching an explanatory film. Nor could they repeat how the 'Professor' in Jurassic Park said he created his dinosaurs, even though the film told them step by step what he did. Those problems are not problems of English. They have something to do with how students relate to education. Students are unsurprised by cognitive gaps, perhaps because their 'real world' is somewhere else, not in the classroom. The willingness of students in many disciplines to accept and learn to manipulate successfully ideas in tasks which are inexplicable raises the question of what the equations, graphs, algorithms and experiments mean to many students.

Science students develop fact-based ideas of how processes work, and their writing about those processes is terse, not discursive. Communication lecturers are trained in a discursive tradition inimical to scientists and distant from what they see as appropriate. The result is a credibility gap.

Support courses should not be seen as protecting an abstract standard. Language changes, and science registers are less formal than they once were. The academic Englishes of Chaucer's *Treatise on the Astrolabe*, Newton's *Principia*, and of Bacon, Huxley, Penrose, all fill the *same*

register slot at different dates. but they *differ* enough for one to be able to identify the period each belongs to. Change takes place in response to sociocultural pressures. Changes which survive (that is, are replicated and spread to general use throughout a register) will be selected for some advantage which they confer either in the language system or the cultural situation. The control is the need for clarity and the avoidance of ambiguity.

It is theoretically possible for support courses to focus upon the surface of the language at the expense of meaning, and at the expense of providing the tools which technology brings. They can draw the attention of students to the discourses of their subjects, and teach them the formats and structures required by academic English. Most students at tertiary level, whether or not they are first language speakers of English, need to be made aware of the discourses of their chosen disciplines. For many students language is like a sheet of glass: one looks right through it to the 'meaning' underneath.

Sutton (1992: 88) draws attention to the split between what learners *get* in language support courses and what they want: 'they come with likes and hopes — do they get what they need?'

In a close analysis of the 'necessities, lacks and wants' of three groups of students — agricultural, veterinary and medical — Hutchinson and Waters also point out that

> objective and subjective views of needs can and do conflict, with a consequent destabilising effect on motivation...There is little point in taking an ESP approach, which is based on the principle of learner involvement, and then ignoring the learners' wishes and views...A method which frustrates the predictions of the learner is patently bad...Much of the satisfaction of learners will come when they feel that the hurdles they themselves have predicted have been cleared.
>
> Hutchinson and Waters (1987: 58)

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Language learners, they say, are thinking beings (1987: 43), and the communication network presented to them has to make sense, and make connections across the many aspects of the system of communication through which they will navigate as they become competent. The need to acquire knowledge is a necessary part of learning, but the needs to enjoy the process, and to understand the process, are equally important (51).

All support courses for second language students who have not yet acquired end-user computer skills should provide access to computers and all the facilities that come with Corel Office or Microsoft Office. *No* support or communication course is useful if the student who has passed it leaves university without having learned to use a computer. For this reason, computer assisted support programs are valuable because they fulfil a double function — they provide computer literacy to those who need it and while doing this they show students how to access information which will provide a life-long source of help.

To conclude, it would be more useful for all students if the discursive practices of language support for humanities students were to conform more closely to those of science students — logical thinking processes, problem solving strategies, report writing structures in place of the essay, numbering and heading systems, tables with data, the use of abstracts, computer literacy including spreadsheet programs — all of those would help all students to write better.

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Appendix (10) Memetics

The following two lists are included for interest only. Both bibliographies were temporarily posted on the internet, the first by Manchester University, the second by Liane Gabora.

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http://www.cpm.mmu.ac.uk/jom-emit/links.html

and bibliographies at biblio/index.html and at /overview.html, and a discussion page at /memetics.html

Newsgroup at

http://maxwell.lucifer.com/virus/alt.memetics

This site includes a selection of old threads as well as new discussions.

There are also texts of complete memetics publications on the web, references to the sites will be found on the list of related sites at the Journal of memetics web site.

Another useful source of information in this and related fields is Michael Gregory's List 'H-NEXA: the Science-Humanities Convergence Forum' H-NEXA@H-NET.MSU.EDU, or mgregory@concentric.net.

UK Memes Central, and Meme Lab, to be found at

www.memes.org.uk